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# ASSESSMENT AND REDESIGN OF MEDICARE FEE SCHEDULE AREAS (LOCALITIES)

## Final Report

### VOLUME I: Text

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# ASSESSMENT AND REDESIGN OF MEDICARE FEE SCHEDULE AREAS: FINAL REPORT

## EXECUTIVE SUMMARY

### 1.0 BACKGROUND ON THE MEDICARE PAYMENT LOCALITIES

A major change in Medicare physician payment rules began on January 1, 1992. After nearly 25 years of reimbursing physicians based on "reasonable" charges, Congress mandated a transition to a fee schedule for Medicare physician services. In addition to establishing a relative value scale for physician services, the Omnibus Reconciliation Act of 1989 (OBRA 1989), Public Law 101-239, reformed the basis of physician payment. Instead of area prevailing charge screens, a Geographic Adjustment Factor (GAF)—comprised of three Geographic Practice Cost Indices (GPCIs) for physician work, practice expense, and malpractice premiums—is applied to determine payment in each area. However, the payment areas were not modified: the Fee Schedule Areas (FSAs) were defined to be the current Medicare payment localities.

The Medicare payment localities were established by the local insurance carrier at the inception of the Medicare program according to local criteria for medical practice and economic conditions. As such, they have no consistent geographic basis. The localities have been mostly "frozen" since 1966, and may reflect historical relationships that are no longer relevant. Recognizing that changes in the FSAs may be warranted, the Health Care Financing Administration (HCFA) has allowed multi-locality states to convert to a single statewide locality if a state's physician community (including both urban and rural physicians) overwhelmingly supported the change. Iowa, Minnesota, Nebraska, North Carolina, Ohio, and Oklahoma have converted to a statewide locality, reducing the total number of payment areas from 240 prior to the Medicare Fee Schedule to 210 as of January 1, 1995.

Table ES-1 gives the current distribution of localities by state. The number of payment areas varies widely by state, with Texas having 32, California 28, and 22 states having only one. The large number and small population base of payment areas in some states can result in unstable and inaccurate GPCIs. Moreover, some current payment localities involve subcounty parts (city limits, zip codes), which considerably complicate calculation and updating of the GPCIs. The large number and/or small geographic components of the payment localities in some areas create unnecessary payment differences among adjacent or nearby areas.

TABLE ES-1

## MEDICARE PART B LOCALITIES BY STATE AND OTHER,\* JANUARY 1, 1995

<u>Single Locality States</u>	<u>Number of of Localities</u>	<u>Multilocality States</u>	<u>Number of of Localities</u>
Alaska	1	Texas	32
Arkansas	1	California	28
Colorado	1	Illinois	16
Delaware	1	Wisconsin	11
Hawaii/Guam	1	Louisiana	8
Iowa	1	New York	8
Minnesota	1	Missouri	7
Montana	1	Alabama	6
Nebraska	1	Arizona	6
New Hampshire	1	Oregon	5
New Mexico	1	West Virginia	5
North Carolina	1	Connecticut	4
North Dakota	1	Florida	4
Ohio	1	Georgia	4
Oklahoma	1	Nevada	4
Rhode Island	1	Pennsylvania	4
South Carolina	1	Virginia	4
South Dakota	1	Indiana	3
Tennessee	1	Kansas	3
Utah	1	Kentucky	3
Vermont	1	Maine	3
Wyoming	1	Maryland	3
Statewide Localities	= 22	New Jersey	3
		Washington	3
		Idaho	2
		Massachusetts	2
District of Columbia	1	Michigan	2
Puerto Rico	1	Mississippi	2
Virgin Islands	1	28 Multilocality States/Localities	= 185
Other Areas	= 3		
		As of January 1, 1995 Total Localities	= 210

NOTES: Excludes Railroad Board localities.

210 total localities in 1995 reflects Iowa change to statewide; 1991 count was 240;

1992 count of 232 reflects MN, NE and OK changes to statewide and Iowa reduction from 8 to 7 localities;

1994 count of 216 reflects OH, NC changes to statewide; and Washington reduction from 5 to 4 localities.

Minnesota is serviced by two carriers but is one locality for Medicare payment purposes.

\*3 Other geographic/political areas are District of Columbia, Puerto Rico, and the Virgin Islands with one locality each.

SOURCE: Health Care Financing Administration.



With a thoroughgoing revision of physician payment, it is time to systematically reevaluate the Medicare physician payment areas. HCFA specified four options for FSAs and contracted with Health Economics Research, Inc. to construct and evaluate these options. A major goal of all the options is to continue to reduce the number of FSAs, leading to greater simplicity, understandability, ease of administration, reductions in payment differences among adjacent areas, and stability of payment updates. A further goal is to establish a consistent set of criteria for the Medicare FSAs that are applied uniformly nationwide.

## **2.0 FEE SCHEDULE AREA OPTIONS EVALUATED IN THIS REPORT**

The four FSA options that are evaluated in this report are summarized in Table ES-2. Option 1 uses the current Medicare payment localities as building blocks, but retains as FSAs only localities that exceed their statewide average cost by more than a specified percentage threshold. A variant of Option 1, Option 1i, compares each locality's costliness to less expensive localities in the state only, rather than to the statewide average cost. Option 2 is identical to Option 1, except that Metropolitan Statistical Areas (MSA) are the fundamental geographic units rather than Medicare payment localities. Option 3 defines FSAs for each current multi-locality state by metropolitan area population classes<sup>1</sup>. Option 4 uses the same metropolitan area population categories as Option 3, but only five areas are defined nationwide, across all states.

## **3.0 EVALUATION OF FEE SCHEDULE AREA OPTIONS**

Option 4 is the least promising approach to constructing FSAs. In its current form, it is unacceptably inaccurate in tracking input price differences, and creates too many large and inappropriate GAF differences across FSA boundaries. It is also the most complex option geographically, although it does have the fewest number of FSAs. Option 4 could be refined by introducing Primary MSA/MSA and/or regional distinctions, but then it would lose its simplicity, which is its most appealing feature.

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<sup>1</sup>Option 3 is the locality configuration recommended by the Physician Payment Review Commission (PPRC, 1992), with one difference. PPRC recommended that only current multilocality states whose intrastate (county) standard deviation of the GAF exceeded a specified level be divided by metropolitan area population size. States with little intra-state GAF variation would become statewide Fee Schedule Areas. The standard deviations of the county GAF by state are shown in Appendix Table A-11.

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TABLE ES-2

SUMMARY OF FEE SCHEDULE AREA (FSA) OPTIONS

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Option 1:

Statewide FSAs, except for Medicare Payment Localities whose GAF exceeds the statewide GAF by more than a specified percentage threshold. States with a single payment locality as of January 1, 1995 remain statewide. Option 1i is a variant in which localities whose GAF exceeds the average GAF of lower-cost localities in a state by more than a threshold remain distinct FSAs.

Option 2:

Statewide FSAs, except for metropolitan areas (MSAs, PMSAs, NECMAs) whose GAF exceeds the statewide GAF by more than a specified percentage threshold. States with a single payment locality as of January 1, 1995 remain statewide.

Option 3:

Each state with multiple FSAs as of January 1, 1995 is divided into up to five FSAs based on metropolitan area population size:

>3 million

1-3 million

.25-1 million

<.25 million

nonmetropolitan

States with a single payment locality as of January 1, 1995 remain statewide.

Option 4:

Five nationwide FSAs based on metropolitan area population size:

>3 million

1-3 million

.25-1 million

<.25 million

nonmetropolitan

All states, including those which currently have a statewide payment locality, and Puerto Rico, the Virgin Islands, Guam, and the District of Columbia are included in these areas.

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GAF = Geographic Adjustment Factor.

MSA = Metropolitan Statistical Area.

PMSA = Primary Metropolitan Statistical Area.

NECMA = New England County Metropolitan Area.

Option 3 is also relatively unpromising. It creates the largest number of FSAs of any option<sup>2</sup> and is more geographically complex than either Option 1 or Option 2. Option 3 suffers from inadequate tracking of input price variations and inappropriate payment differences across boundaries, which are caused in both Options 3 and 4 by grouping metropolitan areas by population class. As compared to Option 4, these problems are lessened by the use of state-specific population classes in Option 3, but we feel that these drawbacks are still likely to be unacceptable. Option 3 could be refined in a similar manner to Option 4, but at the cost of considerably increased complexity.

Option 2 is relatively more promising than Options 3 and 4, but we believe that it is less attractive than Option 1. Options 2 and 1 produce similar FSAs. The primary reason we prefer Option 1 is that it utilizes the existing Medicare payment localities as building blocks, and thus implementing it would cause less disruption to current administrative procedures. In addition, the urban payment localities used in Option 1 tend to be smaller and more focused on high-cost core urban counties than the larger metropolitan area definitions used in Option 2. Finally, appropriate treatment of multi-state metropolitan areas in Option 2 is difficult.

We considered two versions of Option 1, basic and variant<sup>3</sup>. We prefer the variant of Option 1. The basic version of Option 1 has two shortcomings. First, some mid-sized metropolitan areas in large states such as California and Texas do not remain distinct FSAs despite their considerably higher input prices than in the rural and small city areas of their states. Second, some large metropolitan areas in small states, such as Baltimore, Maryland, do not remain distinct FSAs. The variant of Option 1 overcomes both of these shortcomings by comparing input prices of a payment locality to the average costliness of less-expensive localities, rather than to the entire state average. This method ensures homogeneity of input prices in statewide or residual state FSAs. For a fixed total number of FSAs, the variant of Option 1 creates more FSAs than the basic version in large states, but fewer states have multiple FSAs.

The variant of Option 1--Option 1i--is our preferred method for defining FSAs. Multiple thresholds are available with Option 1i. Choosing a preferred threshold is a policy

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<sup>2</sup>If states with small intra-state input price variation became statewide FSAs (Cf. footnote 1), the number of FSAs created by Option 3 would be reduced.

<sup>3</sup>The variant is labeled Option 1i for "Option 1, iterated". In Option 1i, a state's localities are ranked in descending order of their GAFs. Then, the GAF of the highest-price locality is compared to the average GAF of lower-priced localities. If this difference exceeds a threshold, the highest-price locality remains a distinct FSA. If so, the comparison is repeated (i.e., the method is iterated) for the second highest-price locality, whose GAF is compared to the state average excluding the two highest-price localities. The comparisons (iterations) continue until the highest-price remaining locality does not become a distinct FSA. Then no further comparisons are made for lower-price localities.

judgment about the tradeoff between more accurate tracking of input price differences on the one hand, and fewer FSAs, more statewide FSAs, greater simplicity, and smaller average payment differences among counties on the other hand. We have chosen two recommended thresholds. The 5 percent threshold is our "basic" FSA option, and the 3.5 percent threshold is our "extended" FSA option. Before presenting Geographic Adjustment Factors (GAFs) by FSA for these two thresholds, we discuss two other elements of payment locality redefinition that, in combination with Option 1i, constitute our consolidated policy recommendation.

#### **4.0 AGGREGATING SUBCOUNTY LOCALITIES**

As of January 1, 1995, eleven states had Medicare payment localities defined in terms of subcounty areas (towns, zip codes). We recommend that payment localities involving subcounty parts be aggregated to the county level. Aggregation will reduce the number of FSAs, increase simplicity, and ease the administrative burden of computing and maintaining the GPCI. No payment accuracy will be lost by aggregating because the input prices used in the GPCI are not available for areas smaller than counties.

Under our preferred method for defining FSAs, the variant of Option 1 (Option 1i), subcounty locality parts are eliminated in five of the 11 states that currently have them. In four other states, simple redefinitions can establish close "county equivalents" of the localities with subcounty parts remaining under Option 1i. In the remaining two states, plus one state that becomes a statewide FSA under Option 1i, we recommend a more fundamental restructuring of the Medicare payment localities.

#### **5.0 FUNDAMENTAL LOCALITY REDEFINITION IN THREE STATES**

In three states—Massachusetts, Missouri, and Pennsylvania—neither their current payment localities nor the redefined FSAs that result from Option 1i track input prices accurately. Moreover, Missouri and Pennsylvania are the only states that retain localities including subcounty parts under Option 1i. Therefore, we recommend a fundamental restructuring of these three states' FSAs. We recommend that Massachusetts be divided into two FSAs: (i) Metropolitan Boston and (ii) Rest of Massachusetts. We recommend that Pennsylvania also be divided into two FSAs: (i) Metropolitan Philadelphia and (ii) Rest of Pennsylvania. And we recommend that Missouri be divided into three FSAs: (i) Metropolitan St. Louis, (ii) Metropolitan Kansas City, and (iii) Rest of Missouri.

## 6.0 TWO POLICY OPTIONS: BASIC AND EXTENDED

We present two recommended policy options--Basic and Extended--for HCFA to consider. The Policy Option, Basic is the combination of:

- Option 1i, 5 percent threshold,
- aggregations of subcounty localities, and
- the fundamental restructuring of payment areas for Massachusetts, Missouri, and Pennsylvania.

The Policy Option, Extended is the combination of:

- Option 1i, 3.5 percent threshold,
- aggregations of subcounty localities, and
- the fundamental restructuring of payment areas for Massachusetts, Missouri, and Pennsylvania.

The FSAs with associated GAFs for the two Policy Options are presented in Table ES-3. The Policy Option, Basic has 89 total FSAs versus 210 current payment localities. Only 16 states have multiple FSAs, compared to 28 currently. The Policy Option, Extended achieves an even more accurate tracking of input prices at the expense of a larger number of FSAs. The extended option has 103 FSAs, about half as many as currently exist. Twenty-three states have multiple FSAs compared to 28 currently. State maps of the two policy options are given at the beginning of Volume III (Maps) of this report.

## 7.0 CHANGES IN GEOGRAPHIC ADJUSTMENT FACTORS RESULTING FROM POLICY OPTIONS

The vast majority of the current payment localities would see either no change or a minor change (i.e., less than 3 percent) in their Geographic Adjustment Factor (GAF) if the FSAs of either Policy Option Basic or Extended were adopted. Overall, the winners tend to be the more rural, small city, and lower-price of the current payment localities. The losers tend to be localities containing moderate-sized metropolitan areas. These redistributions are modest, less than a 5 percent gain or loss. Most large metropolitan areas would see no change.

TABLE ES-3

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA)  
UNDER BASIC AND EXTENDED POLICY OPTIONS\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>FSA POLICY OPTIONS</u>	
		<u>Basic</u>	<u>Extended</u>
ALABAMA	BIRMINGHAM, AL	-	0.957
	REST OF STATE	0.932	0.922
ALASKA*	STATEWIDE	1.128	1.128
ARIZONA	STATEWIDE	0.995	0.995
ARKANSAS*	STATEWIDE	0.887	0.887
CALIFORNIA	SAN FRANCISCO, CA	1.153	1.153
	SANTA CLARA, CA	1.134	1.134
	SAN MATEO, CA	1.130	1.130
	LOS ANGELES, CA	1.103	1.103
	ANAHEIM/SANTA ANA, CA	1.092	1.092
	OAKLAND/BERKLEY, CA	1.092	1.092
	VENTURA, CA	1.079	1.079
	MARIN/NAPA/SOLANO, CA	1.063	1.063
	MONTEREY/SANTA CRUZ, CA	-	1.044
	SANTA BARBARA, CA	-	1.042
	REST OF STATE	1.007	1.003
COLORADO*	STATEWIDE	0.966	0.966
CONNECTICUT	FAIRFIELD COUNTY, CT	-	1.146
	REST OF STATE	1.106	1.093
DELAWARE*	STATEWIDE	1.015	1.015
DISTRICT OF COLUMBIA	DC +MD/VA SUBURBS†	1.105	1.105
FLORIDA	MIAMI, FL	1.114	1.114
	FORT LAUDERDALE, FL	1.055	1.055
	REST OF STATE	0.984	0.984
GEORGIA	ATLANTA, GA	1.011	1.011
	REST OF STATE	0.935	0.935

TABLE ES-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA)  
UNDER BASIC AND EXTENDED POLICY OPTIONS\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>FSA OPTIONS</u>	
		<u>Basic</u>	<u>Extended</u>
HAWAII/GUAM*	STATEWIDE	1.086	1.086
IDAHO	STATEWIDE	0.911	0.911
ILLINOIS	CHICAGO, IL	1.066	1.066
	SUBURBAN CHICAGO, IL	1.050	1.050
	EAST ST. LOUIS, IL	0.974	0.974
	SPRINGFIELD, IL	-	0.961
	ROCKFORD, IL	-	0.955
	REST OF STATE	0.924	0.913
INDIANA	STATEWIDE	0.925	0.925
IOWA*	STATEWIDE	0.912	0.912
KANSAS	KANSAS CITY, KS	-	0.982
	REST OF STATE	0.945	0.936
KENTUCKY	LEXINGTON & LOUISVILLE, KY	-	0.946
	REST OF STATE	0.921	0.904
LOUISIANA	NEW ORLEANS, LA	0.977	0.977
	REST OF STATE	0.926	0.926
MAINE	SOUTHERN MAINE	0.992	0.992
	REST OF STATE	0.937	0.937
MARYLAND	BALTIMORE/SURR. CNTYS, MD	1.032	1.032
	REST OF STATE††	0.964	0.964
MASSACHUSETTS	BOSTON, MA	1.108	1.108
	REST OF STATE	1.041	1.041

TABLE ES-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA)  
UNDER BASIC AND EXTENDED POLICY OPTIONS\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>FSA OPTIONS</u>	
		<u>Basic</u>	<u>Extended</u>
MICHIGAN	DETROIT, MI	1.137	1.137
	REST OF STATE	1.012	1.012
MINNESOTA*	STATEWIDE	0.961	0.961
MISSISSIPPI	STATEWIDE	0.899	0.899
MISSOURI	ST. LOUIS, MO	0.984	0.984
	KANSAS CITY, MO	0.983	0.983
	REST OF STATE	0.911	0.911
MONTANA*	STATEWIDE	0.907	0.907
NEBRASKA*	STATEWIDE	0.894	0.894
NEVADA	STATEWIDE	1.010	1.010
NEW HAMPSHIRE*	STATEWIDE	1.003	1.003
NEW JERSEY	NORTHERN NJ	1.109	1.109
	REST OF STATE	1.051	1.051
NEW MEXICO*	STATEWIDE	0.937	0.937
NEW YORK	MANHATTAN, NY	1.225	1.225
	NYC SUBURBS/LONG I., NY	1.170	1.170
	QUEENS, NY	1.163	1.163
	POUGHKPSIE/N NYC SUBURBS, NY	1.050	1.050
	REST OF STATE	0.973	0.973
NORTH CAROLINA*	STATEWIDE	0.924	0.924
NORTH DAKOTA*	STATEWIDE	0.898	0.898
OHIO*	STATEWIDE	0.973	0.973



TABLE ES-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA)  
UNDER BASIC AND EXTENDED POLICY OPTIONS\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>FSA OPTIONS</u>	
		<u>Basic</u>	<u>Extended</u>
OKLAHOMA*	STATEWIDE	0.910	0.910
OREGON	PORTLAND, OR	0.981	0.981
	REST OF STATE	0.933	0.933
PENNSYLVANIA	PHILADELPHIA, PA	1.066	1.066
	REST OF STATE	0.951	0.951
PUERTO RICO	PUERTO RICO	0.794	0.794
RHODE ISLAND*	STATEWIDE	1.068	1.068
SOUTH CAROLINA*	STATEWIDE	0.915	0.915
SOUTH DAKOTA*	STATEWIDE	0.880	0.880
TENNESSEE*	STATEWIDE	0.923	0.923
TEXAS	HOUSTON, TX	1.034	1.034
	DALLAS, TX	1.006	1.006
	BRAZORIA, TX	1.003	1.003
	GALVESTON, TX	1.001	1.001
	AUSTIN, TX	0.979	0.979
	FORT WORTH, TX	0.977	0.977
	BEAUMONT, TX	0.973	0.973
	REST OF STATE	0.924	0.924
UTAH*	STATEWIDE	0.926	0.926
VERMONT*	STATEWIDE	0.955	0.955
VIRGIN ISLANDS	VIRGIN ISLANDS	0.974	0.974
VIRGINIA††	RICHMOND & CHARLOTTESVILLE, VA	-	0.975
	TIDEWATER & N VA CNTYS, VA	-	0.958
	REST OF STATE	0.944	0.918

TABLE ES-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA)  
UNDER BASIC AND EXTENDED POLICY OPTIONS\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>FSA OPTIONS</u>	
		<u>Basic</u>	<u>Extended</u>
WASHINGTON	SEATTLE (KING CNTY), WA	1.023	1.023
	REST OF STATE	0.962	0.962
WEST VIRGINIA	CHARLESTON, WV	-	0.941
	REST OF STATE	0.919	0.908
WISCONSIN	MADISON (DANE CNTY), WI	-	1.002
	MILWAUKEE, WI	-	0.999
	MILWAUKEE SUBURBS (SE), WI	-	0.985
	REST OF STATE	0.968	0.941
WYOMING*	STATEWIDE	0.925	0.925
TOTAL NUMBER OF FEE SCHEDULE AREAS		89	103
NUMBER OF STATES WITH MULTIPLE FSAs		16	23
NUMBER OF STATES WITH A SINGLE FSA		34	27
NUMBER OF OTHER FSAs**		3	3

\* FSAs that are statewide as of January 1, 1995 remain statewide areas.

\*\* Puerto Rico, the Virgin Islands, and the District of Columbia.

†The District of Columbia payment locality includes suburban Maryland and Virginia counties.

††Excludes Maryland counties in the Washington D.C. payment locality.

†††Excludes Virginia counties in the Washington, D.C. payment locality. The statewide Virginia GAF including these counties is 0.966.

NOTE: GAFs are derived from GPCIs rescaled for budget neutrality.

SOURCE: Health Economics Research, Inc. file of county input prices.

The fundamental restructurings in Massachusetts, Missouri, and Pennsylvania create slightly larger winners and losers. Tables ES-4 and ES-5 show the largest winners and losers among the current Medicare payment localities from the Policy Options Basic and Extended, respectively. "Winning" and "losing" is measured by change in a payment locality's GAF. Some of the current localities are divided into parts that are assigned to different FSAs under the Policy Options. This is a result of aggregating subcounty locality parts to counties and of the fundamental restructuring of FSAs in Massachusetts, Missouri, and Pennsylvania. Locality parts are indicated with an asterisk in Tables ES-4 and ES-5.

The largest gain is 6.5 percent, by the portion of the current "Large Pennsylvania Cities" locality that becomes part of the new "Philadelphia, PA" FSA. The largest loss, -8.6 percent is the Pittsburgh portion of the current "Philadelphia/Pittsburgh Medical Schools/Hospitals" locality, which becomes part of the new "Rest of Pennsylvania" FSA. These gains and losses are the result of an effort to improve the accuracy with which the Medicare FSAs reflect input price differences in those states. For example, the county GAF of Allegheny County, which contains Pittsburgh, is 0.962. The GAF of the current "Philadelphia/Pittsburgh Medical Schools/Hospitals" locality, which contains part of Pittsburgh, is 1.041. Thus, under the current localities, the Medicare Fee Schedule GAF of this part of Pittsburgh exceeds its "true" (i.e., county) GAF by 8.2 percent. Conversely, under the proposed "Rest of Pennsylvania" FSA, the Medicare Fee Schedule GAF of 0.951 will be within about 1 percent of the area's county GAF. In some cases, moderate gains or losses are also created by aggregating subcounty parts to counties. For example, the parts of Clackamas, Multnomah, and Washington counties that are in the current "Rest of Oregon" locality are added to the higher-GAF "Portland, Oregon" FSA.

The Policy Option, Extended creates less redistribution than the Policy Option, Basic, at the "expense" of adding 14 more FSAs. The gains and losses from the fundamental restructurings in Massachusetts, Missouri, and Pennsylvania are the same, but otherwise, losses, in particular, are attenuated. For example, Monterey/Santa Cruz and Santa Barbara, California, Kansas City, Kansas, Southwest Connecticut, Springfield and Rockford, Illinois, and Madison and Milwaukee, Wisconsin appear among the largest losers in Table ES-4 (Policy Option, Basic), but not in Table ES-5 because they remain distinct FSAs under Policy Option, Extended. Two subcounty aggregations in states that are a single locality in the basic option (Kentucky and Connecticut) are added in this option and create winners and losers.

TABLE ES-4

1996 GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY MEDICARE PAYMENT LOCALITY/LOCALITY PART FOR JANUARY 1, 1995 LOCALITIES AND POLICY OPTION, BASIC FEE SCHEDULE AREAS (FSAs), LARGEST GAINERS AND LOSERS †

		GAF					
Carrier Number	Locality Number	January 1, 1995 Locality (* indicates locality part)	Policy Option, Basic FSA	Policy Option Basic	Jan. 1, 1995 Localities	Percentage Point Difference	Percent Difference
<b>LARGEST GAINERS</b>							
865	02	* LG PA CITIES	PHILADELPHIA, PA	1.066	1.001	0.065	6.5 %
700	02	* MASS SUBURBS/RURAL CITIES	BOSTON, MA	1.108	1.048	0.060	5.7
1360	99	* REST OF OREGON	PORTLAND, OR	0.981	0.924	0.057	6.2
542	02	NE RURAL, CA	REST OF CALIFORNIA	1.007	0.952	0.055	5.8
542	13	KINGS/TULARE, CA	REST OF CALIFORNIA	1.007	0.955	0.052	5.4
951	13	CENTRAL WI	WISCONSIN	0.968	0.924	0.044	4.8
951	14	SOUTHWEST WI	WISCONSIN	0.968	0.924	0.044	4.8
951	12	NORTHWEST WI	WISCONSIN	0.968	0.925	0.043	4.6
621	13	SOUTHEAST IL	REST OF ILLINOIS	0.924	0.882	0.042	4.6
621	07	QUINCY, IL	REST OF ILLINOIS	0.924	0.886	0.038	4.3
542	11	FRESNO/MADERA, CA	REST OF CALIFORNIA	1.007	0.971	0.036	3.7
951	36	WAUSAU (N CNTRL), WI	WISCONSIN	0.968	0.932	0.036	3.9
621	14	SOUTHERN IL	REST OF ILLINOIS	0.924	0.889	0.035	3.9
10230	04	EASTERN CT	CONNECTICUT	1.106	1.072	0.034	3.2
10490	04	REST OF VA	VIRGINIA	0.944	0.912	0.032	3.5
900	04	WESTERN TX	REST OF TEXAS	0.924	0.893	0.031	3.5
1030	07	PRESCOTT, AZ	ARIZONA	0.995	0.964	0.031	3.2
510	06	REST OF AL	ALABAMA	0.932	0.902	0.030	3.3
1290	03	ELKO & ELY (CITIES), NV	NEVADA	1.010	0.980	0.030	3.1
542	10	MERCED/SURR.CNTYS, CA	REST OF CALIFORNIA	1.007	0.977	0.030	3.1
<b>LARGEST LOSERS</b>							
10490	01	RICHMOND & CHARLOTTESVILLE, VA	VIRGINIA	0.944	0.975	-0.031	-3.2
621	02	ROCKFORD, IL	REST OF ILLINOIS	0.924	0.955	-0.031	-3.2
900	12	CENTON, TX	REST OF TEXAS	0.924	0.955	-0.031	-3.2
951	04	MILWAUKEE, WI	WISCONSIN	0.968	0.999	-0.031	-3.1
951	15	MADISON (DANE CNTY), WI	WISCONSIN	0.968	1.002	-0.034	-3.4
2050	16	SANTA BARBARA, CA	REST OF CALIFORNIA	1.007	1.042	-0.035	-3.4
621	09	SPRINGFIELD, IL	REST OF ILLINOIS	0.924	0.961	-0.037	-3.9
10230	02	SW CT	CONNECTICUT	1.106	1.143	-0.037	-3.2
740	04	SUBURBAN KANSAS CITY, KANSAS	KANSAS	0.945	0.982	-0.037	-3.8
740	05	KANSAS CITY, KANSAS	KANSAS	0.945	0.982	-0.037	-3.8
542	12	MONTEREY/SANTA CRUZ, CA	REST OF CALIFORNIA	1.007	1.044	-0.037	-3.5
700	01	* URBAN MASS	REST OF MASSACHUSETTS	1.041	1.084	-0.043	-4.0
865	02	* LG PA CITIES	REST OF PENNSYLVANIA	0.951	1.001	-0.050	-5.0
11260	01	* ST. LOUIS/LG E. CITIES, MO	REST OF MISSOURI	0.911	0.968	-0.057	-5.9
865	01	* PHILLY/PITT MED SCHLS/HOSPS, PA	REST OF PENNSYLVANIA	0.951	1.041	-0.090	-6.6

† Gain or loss of 3 percentage points or more. For complete table, see Appendix Table A-7.

\* Locality part

SOURCE: Health Economics Research, Inc.

TABLE ES-5

1996 GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY MEDICARE PAYMENT LOCALITY/LOCALITY PART FOR JANUARY 1, 1995 LOCALITIES AND POLICY OPTION, EXTENDED FEE SCHEDULE AREAS (FSAs), LARGEST GAINERS AND LOSERS †

Carrier Number	Locality Number	January 1, 1995 Locality (* indicates locality part)	Policy Option, Extended FSA	GAF		Percentage Point Difference	Percent Difference
				Policy Option Extended	Jan. 1, 1995 Localities		
<b><u>LARGEST GAINERS</u></b>							
865	02	* LG PA CITIES	PHILADELPHIA, PA	1.066	1.001	0.065	6.5 %
700	02	* MASS SUBURBS/RURAL CITIES	BOSTON, MA	1.108	1.048	0.060	5.7
1380	99	* REST OF OREGON	PORTLAND, OR	0.981	0.924	0.057	6.2
542	02	NE RURAL, CA	REST OF CALIFORNIA	1.003	0.952	0.051	5.4
660	03	* REST OF KENTUCKY	LEXINGTON & LOUISVILLE, KY	0.946	0.895	0.051	5.7
542	13	KINGS/TOLARE, CA	REST OF CALIFORNIA	1.003	0.955	0.048	5.0
542	11	FRESNO/MADERA, CA	REST OF CALIFORNIA	1.003	0.971	0.032	3.3
621	13	SOUTHEAST IL	REST OF ILLINOIS	0.913	0.882	0.031	3.5
900	04	WESTERN TX	REST OF TEXAS	0.924	0.893	0.031	3.5
1030	07	PRESCOTT, AZ	ARIZONA	0.995	0.964	0.031	3.2
1290	03	ELKO & ELY (CITIES), NV	NEVADA	1.010	0.980	0.030	3.1
<b><u>LARGEST LOSERS</u></b>							
10230	03	* S. CNTRL CT	REST OF CONNECTICUT	1.093	1.123	-0.030	-2.7
900	12	DENTON, TX	REST OF TEXAS	0.924	0.955	-0.031	-3.2
660	01	* LEXINGTON & LOUISVILLE, KY	REST OF KENTUCKY	0.904	0.946	-0.042	-4.4
700	01	* URBAN MASS	REST OF MASSACHUSETTS	1.041	1.084	-0.043	-4.0
865	02	* LG PA CITIES	REST OF PENNSYLVANIA	0.951	1.001	-0.050	-5.0
10230	02	* SW CT	REST OF CONNECTICUT	1.093	1.143	-0.050	-4.4
11260	01	* ST. LOUIS/LG E. CITIES, MO	REST OF MISSOURI	0.911	0.968	-0.057	-5.9
865	01	* PHILLY/PITT MED SHCLS/HOSPS, PA	REST OF PENNSYLVANIA	0.951	1.041	-0.090	-8.6

† Gain or loss of 3 percentage points or more. For complete table, see Appendix Table A-9.

\* Locality part.

SOURCE: Health Economics Research, Inc.

## **8.0 IMPACT OF PREFERRED FEE SCHEDULE AREA OPTIONS ON PHYSICIANS AND BENEFICIARIES**

The impact of implementing either of our preferred FSA options on physicians and beneficiaries would be minor. Rural and small urban areas would gain slightly (by 1 percent or less on average) at the expense of mid-sized urban areas (large urban areas would see little change). Because physician specialists are located disproportionately in urban areas, they lose slightly while primary care physicians, who are located disproportionately in rural areas, gain slightly. There is little impact on beneficiaries by age, sex, race, and income status.

## ASSESSMENT AND REDESIGN OF MEDICARE FEE SCHEDULE AREAS

### 1.0 BACKGROUND AND GOALS OF THIS REPORT

#### 1.1 Background

A major change in Medicare physician payment rules began on January 1, 1992. After nearly 25 years of reimbursing physicians based on "reasonable" charges, Congress mandated a transition to a fee schedule for Medicare physician services. In addition to establishing a relative-value scale for physician services, the Omnibus Reconciliation Act of 1989 (OBRA 1989), Public Law 101-239, reformed the geographic basis of physician payment. Instead of area prevailing charge screens, a Geographic Adjustment Factor (GAF)—comprised of three Geographic Practice Cost Indices (GPCIs) for physician work, practice expense, and malpractice premiums—is applied to the national fee schedule amount to determine payment in each area. However, the payment areas were not modified: the Fee Schedule Areas (FSAs) were defined to be the current Medicare payment localities.

The Medicare payment localities were established by the local insurance carrier at the inception of the Medicare program according to local criteria for medical practice and economic conditions. As such, they have no consistent geographic basis. The localities have been mostly "frozen" since 1966, and may reflect historical relationships that are no longer relevant. Recognizing that changes in the FSAs may be warranted, the Health Care Financing Administration (HCFA) has allowed multi-locality states to convert to a single statewide locality if a state's physician community (including both urban and rural physicians) overwhelmingly supported the change. States such as Iowa, Minnesota, Nebraska, North Carolina, Ohio, and Oklahoma have converted to a statewide locality, reducing the total number of payment areas from 240 prior to the Medicare Fee Schedule to 210 as of January 1, 1995.

Table 1-1 gives the distribution of localities by state. The number of payment areas varies widely by state, with Texas having 32, California 28, and 22 states having only one. The large number and small population base of payment areas in some states can result in unstable and inaccurate GPCIs. Moreover, some current payment localities involve subcounty parts (city limits, zip codes), which considerably complicate calculation and updating of the GPCIs. The large number and/or small geographic components of the payment localities in some areas create unnecessary payment differences among adjacent or nearby areas.

TABLE 1-1

## MEDICARE PART B LOCALITIES BY STATE AND OTHER,\* JANUARY 1, 1995

Single Locality States	Number of of Localities	Multi-Locality States	Number of of Localities
Alaska	1	Texas	32
Arkansas	1	California	28
Colorado	1	Illinois	16
Delaware	1	Wisconsin	11
Hawaii/Guam	1	Louisiana	8
Iowa	1	New York	8
Minnesota	1	Missouri	7
Montana	1	Alabama	6
Nebraska	1	Arizona	6
New Hampshire	1	Oregon	5
New Mexico	1	West Virginia	5
North Carolina	1	Connecticut	4
North Dakota	1	Florida	4
Ohio	1	Georgia	4
Oklahoma	1	Nevada	4
Rhode Island	1	Pennsylvania	4
South Carolina	1	Virginia	4
South Dakota	1	Indiana	3
Tennessee	1	Kansas	3
Utah	1	Kentucky	3
Vermont	1	Maine	3
Wyoming	1	Maryland	3
Statewide Localities	= 22	New Jersey	3
		Washington	3
		Idaho	2
		Massachusetts	2
District of Columbia	1	Michigan	2
Puerto Rico	1	Mississippi	2
Virgin Islands	1	28 states/localities	= 185
Other Areas	= 3		
		As of Jan 1, 1995 Total Localities	= 210

NOTES: Excludes Railroad Board localities.

210 Total localities in 1995 reflects Iowa change to statewide; 1991 count was 240;

1992 count of 232 reflects MN, NE and OK changes to statewide and Iowa reduction from 8 to 7 localities;

1994 count of 216 reflects OH, NC changes to statewide; and Washington reduction from 5 to 4 localities.

Minnesota is serviced by two carriers but is one locality for Medicare payment purposes.

\*3 Other geographic/political areas are District of Columbia, Puerto Rico, and the Virgin Islands with one locality each.

SOURCE: Health Care Financing Administration.



With a thoroughgoing revision of physician payment, it is time to systematically reevaluate the Medicare physician payment areas. HCFA has specified four options for FSAs and contracted with Health Economics Research, Inc. to construct and evaluate these options. A major goal of all the options is to continue to reduce the number of FSAs, leading to greater simplicity, understandability, ease of administration, reductions in payment differences among adjacent areas, and more stable payment updates. A further goal is to establish a consistent set of criteria for the Medicare FSAs that are applied uniformly nationwide.

## **1.2 Goals of This Report**

The goals of this report are to:

- (1) Display FSAs and associated GAFs in tables and maps for four FSA options.
- (2) Evaluate the strengths and weaknesses of the four options.
- (3) Identify any technical issues that arise in determining FSAs and GAFs under the four options, and whether any modifications to the options or their computation are warranted, such as aggregation of sub-county areas.
- (4) Analyze the impact of preferred FSA options on Medicare beneficiaries and providers (physicians).

## **1.3 Overview of the Report**

To fulfill the goals of this report, we begin in Chapter 2 by specifying and briefly discussing four options for revising the FSAs. Technical details of the method of determining FSAs and computing GAFs for each of the options are also explained. Results for each option are discussed in Chapter 3. This chapter should be read in conjunction with examination of both the tables included in Chapter 3 and the maps of each option that comprise Volume III of this report. The focus in Chapter 3 is on identifying the strengths and weaknesses of each option, including simplicity (e.g., number of FSAs), accuracy in tracking input price variation, and magnitude of GAF differences across FSA boundaries. We present the rationale for our preferred option in Section 3.6. Chapter 4 presents our analysis of the redistributive impact of FSA changes on Medicare beneficiaries and providers (physicians). Chapter 5 discusses

aggregation of localities involving sub-county parts (zip codes or city limits) and fundamental restructuring of the FSAs in three states. These changes could be pursued either in conjunction with, or independently of, a thoroughgoing revision of the FSAs. Appendix tables are included as Volume II of this report.

## 2.0 SPECIFICATION AND CONSTRUCTION OF FOUR FEE SCHEDULE AREA OPTIONS

### 2.1 Four Fee Schedule Area Options

The four FSA options specified by HCFA are summarized in Table 2-1. All options share the goal of simplifying the current Medicare payment localities, principally by reducing their number. The tradeoff for greater simplicity is less accuracy in reflecting input price variation. To minimize the loss in accuracy while reducing the number of FSAs, all the options group payment localities, or metropolitan areas, according to some measure of their actual or expected costliness.

Option 1 is the only option to build on the current Medicare payment localities. The other three options use metropolitan areas defined by the Bureau of the Census and the Office of Management and Budget as their building blocks. Option 1 presumes that FSAs should be statewide for each state unless a substate payment locality has sufficiently higher input prices (as measured by its GAF) than the average prices of its state (as measured by the state average GAF). If the percentage difference of the locality's GAF from the state GAF exceeds a specified threshold, that locality remains a distinct FSA. Otherwise, the locality is merged into a residual FSA for its state. If no substate locality has sufficiently higher prices than the state average, the state becomes a single statewide FSA. States that comprised a single, statewide payment locality as of January 1, 1995 are constrained to remain statewide FSAs.

Option 1 has the property of "pulling out", or retaining, a state's high-price localities, while merging the moderate and lower-price localities into a single residual FSA. Note the asymmetry: higher-price areas are retained as distinct areas, but lower-price areas are merged with moderate-price areas. Thus, the highest price areas (usually large cities) will tend to see no change in their GAF, the lowest price areas (usually rural areas) will tend to see an increase, and moderate price areas (usually smaller cities or suburbs) will tend to see a decrease. All of this depends on a state's average prices, however. A payment locality with the same absolute costliness is more likely to remain a distinct FSA if its state includes other, lower-price localities than if the state is uniformly expensive. Option 1 tends to divide states with large variation in input prices among localities into multiple FSAs, while combining states with little price variation into a single, statewide locality. The number of higher-price payment localities that remain distinct FSAs can be modulated by varying the percentage threshold that they must exceed, giving rise to a multiplicity of variants of Option 1.

Option 1i, or "Option 1, iterated", is a variant of Option 1. In this variant, the GAF of a locality is compared to the average GAF of lower-price localities in the state, rather than to the

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TABLE 2-1

SUMMARY OF FEE SCHEDULE AREA (FSA) OPTIONS

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**Option 1:**

Statewide FSAs, except for Medicare Payment Localities whose GAF exceeds the statewide GAF by more than a specified percentage threshold. States with a single payment locality as of January 1, 1995 remain statewide. Option 1i is a variant in which localities whose GAF exceeds the average GAF of lower-cost localities in a state by more than a threshold remain distinct FSAs.

**Option 2:**

Statewide FSAs, except for metropolitan areas (MSAs, PMSAs, NECMAs) whose GAF exceeds the statewide GAF by more than a specified percentage threshold. States with a single payment locality as of January 1, 1995 remain statewide.

**Option 3:**

Each state with multiple FSAs as of January 1, 1995 is divided into up to five FSAs based on metropolitan area population size:

>3 million

1-3 million

.25-1 million

<.25 million

nonmetropolitan

States with a single payment locality as of January 1, 1995 remain statewide.

**Option 4:**

Five nationwide FSAs based on metropolitan area population size:

>3 million

1-3 million

.25-1 million

<.25 million

nonmetropolitan

All states, including those which currently have a statewide payment locality, and Puerto Rico, the Virgin Islands, Guam, and the District of Columbia are included in these areas.

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GAF = Geographic Adjustment Factor.

MSA = Metropolitan Statistical Area.

PMSA = Primary Metropolitan Statistical Area.

NECMA = New England County Metropolitan Area.

statewide average. If this difference exceeds a percentage threshold, the locality remains a distinct FSA. Otherwise, it becomes part of a statewide or rest of state residual FSA.

Specifically, a state's localities are ranked from highest to lowest GAF. The GAF of the highest-price locality is compared to the weighted average GAF of the other localities. If this percentage difference exceeds a specified threshold, the highest-price locality remains a distinct FSA. If not, the state becomes a single statewide FSA. If the highest-price locality remains a FSA, the process is repeated (iterated, hence the designation Option 1i) for the second highest price locality. Its GAF is compared to the statewide average GAF excluding the two highest-price localities. If this difference exceeds the threshold, the second-highest-price locality remains a distinct FSA. The logic is repeated (iterated), moving down the ranking of localities by costliness, until the highest-price remaining locality does not remain a distinct FSA. Then no further comparisons are made for lower-price localities. Always, the GAF of a locality is compared only to the average GAF of lower-price localities. This ensures that the statewide or residual state FSA has relatively homogeneous input prices.

Option 1i will differ most from Option 1 in large states containing multiple payment localities with a wide range of GAFs. In Option 1, the highest-price localities raise the state average such that moderate-price localities may not exceed the state average by much, if at all, even if they are considerably more expensive than the lower price localities. Similarly, a large, high price locality in a small state may raise the state average so much that it does not become a distinct FSA even if it is much more expensive than the rest of the state. Thus, the residual state or statewide FSAs in Option 1 may be quite heterogeneous in input prices, with a wide range of GAFs. Option 1i solves these problems by comparing a locality only to lower-price localities, rather than to the statewide average. For a given threshold, Option 1i will tend to generate more FSAs than Option 1, with most of the additional FSAs occurring in large states with substantial price variation.

Option 2 is similar to Option 1, but metropolitan areas are used as the building blocks rather than the current Medicare payment localities. The GAF of each metropolitan area is compared to the state average GAF, and the metropolitan area becomes a FSA only if the percentage difference exceeds a threshold. Other metropolitan areas, and the state non-metropolitan area, are grouped into a single statewide residual FSA. The percentage threshold can be varied to control the number of statewide FSAs, giving rise to alternative versions of Option 2. States that comprised a single, statewide locality as of January 1, 1995 are constrained to remain statewide FSAs. A variant of Option 2, which we call Option 2A, applies the logic of Option 2 to all states, whether or not they are currently a single payment locality.

Option 3 is closely related to the FSA proposal made by the Physician Payment Review Commission (PPRC, 1992). Metropolitan areas in states that had multiple payment localities as

of January 1, 1995 are grouped into up to four population categories. The average GAF is computed for each category, and for the state non-metropolitan area. States with a single statewide locality as of January 1, 1995 remain statewide. The logic of this option is that input prices are expected to be related to metropolitan area population; hence, the number of payment localities can be reduced by grouping metropolitan areas with similar populations into a single FSA. The HCFA-specified version of this option differs from the PPRC version in that the latter explicitly ranked states by intra-state GAF variation to determine which states would be divided into metropolitan area population classes, rather than dividing all currently multi-locality states<sup>1</sup>. Since this option does not involve "thresholds", there is only one variant.

Option 4 extends the logic of Option 3 to all states, including those that are currently statewide localities. In addition, the metropolitan area population size FSAs are nationwide, rather than state-specific: there are only five FSAs for the entire nation. This option presumes that input prices are strongly related to metropolitan area population nationwide, with few regional or state-specific factors affecting prices.

## 2.2 Methods of Computation

All options were constructed using the file of county input prices developed by Health Economics Research, Inc. in its recent project for HCFA to update and refine Medicare's Geographic Practice Cost Index (Pope and Zuckerman, 1995). The GAFs are computed from 1996 quarter work, practice expense, and malpractice GPCIs adjusted for budget neutrality. Medicare payment locality definitions are current as of January 1, 1995. In options 2, 3, and 4, metr. politan areas are defined as Metropolitan Statistical Areas (MSAs), Primary Metropolitan Statistical Areas (PMSAs), or New England County Metropolitan Areas (NECMAs) as defined by the Office of Management and Budget on June 30, 1993. In consultation with HCFA, it was decided that the thresholds used in Options 1 and 2 would be based on percentages rather than percentage points (i.e., 2.5 percent rather than 2.5 percentage points<sup>2</sup>).

Also in consultation with HCFA, the decision was made to treat the Washington, D.C. payment locality (Option 1) or PMSA (Options 2 and 3) as if it were a state. That is, the Maryland and Virginia counties in the Washington area were excluded from computations

<sup>1</sup>The PPRC (PPRC, 1992) used the standard deviation of the county GAF by state to measure intra-state input price variation. These standard deviations are shown in Appendix Table A-11.

<sup>2</sup>The difference between two index numbers in percentage points is the smaller number subtracted from the larger number multiplied by 100. For example, 1.125 minus 1.100 multiplied by 100 equals 2.5 percentage points. The percent difference is the percentage point difference divided by the smaller number, or  $(1.125 - 1.100) \times 100 / 1.100 = 2.3$  percent. If the smaller index number is greater than one, the percent difference is smaller than the percentage point difference; but if the smaller index number is less than one, the percent difference exceeds the percentage point difference.

involving those states, but included with the Washington payment locality or PMSA. Unlike other multi-state metropolitan areas, Washington, D.C. was not decomposed into state-specific portions in the Option 2 and Option 3 analyses (see Section 2.2.1 below). The reason for this decision was to retain the integrity of the Washington D.C. metropolitan area as a FSA, and to increase comparability between Option 1, where the current Washington payment locality becomes a FSA, and Option 2, in which the Washington, D.C. PMSA becomes a FSA.

In the Option 4 computations, Puerto Rico, the Virgin Islands, and Guam were included. For example, the GAF of San Juan, Puerto Rico was included in the nationwide average for metropolitan areas with 1 to 3 million population.

## **2.2.1 Multi-State Metropolitan Areas**

How to incorporate the 34 (excluding Washington, D.C.) multi-state metropolitan areas (see Appendix Table A-5 for a listing) is an issue for FSA Options 2 and 3, which are based on metropolitan area GAF comparisons or population categories by state. Also, states that currently have a single payment locality are to remain statewide under Options 2 and 3, even if they contain portions of multi-state metropolitan areas. For this report, we decomposed multi-state metropolitan areas into state-specific portions. This section describes the issues that multi-state metropolitan areas give rise to, and how we resolved them, for Option 2 in Section 2.2.1.1, and for Option 3 in Section 2.2.1.2. Section 2.2.1.3 explains why multi-state metropolitan areas are not an issue in Option 4. They, of course, are also not an issue for Option 1, which is based on Medicare payment localities, which never cross state lines except for the District of Columbia locality which includes counties in Maryland and Virginia.

### **2.2.1.1 Option 2**

Multi-state metropolitan areas raise several questions in Option 2, in particular which state to use as a comparison for the area's GAF in the percentage threshold analysis, and how to treat portions of metropolitan areas in states that are currently single statewide payment localities. The simplest and easiest strategy to implement is to treat each part of the metropolitan area in a different state as its own separate metropolitan area. Then the GAF of the state-specific portion of the metropolitan area is compared to the state average GAF of its own state. Portions of metropolitan areas in currently single-locality states are constrained to remain part of the single statewide locality.

An example may help clarify this strategy. The Memphis MSA is composed of counties in three states: Tennessee, Arkansas, and Mississippi. The former two states are currently

single-locality states so the portions of the Memphis MSA in those two states are included with their statewide FSAs. The portion in Mississippi (De Soto county) is treated as a separate MSA. Its GAF is then compared to the Mississippi state average GAF to determine if it should be a distinct FSA.

The strategy of breaking up multi-state metropolitan areas into state-specific portions was adopted for this preliminary analysis. (The only exception is the Washington, D.C. PMSA, as described at the beginning of Section 2.2.) As discussed later in this report (Section 3.3), this way of handling multi-state metropolitan areas appears to have certain undesirable consequences, which may be grounds for adopting a more complex rule for treating multi-state areas.

### 2.2.1.2 Option 3

The multi-state metropolitan area issue also arises in constructing Option 3. In particular, which state should a metropolitan area be included with for purposes of grouping it by population size and computing the GAF for its population category? In their analysis of Option 3, the PPRC required all counties in a metropolitan area to have the same GAF, and considered the metropolitan area to lie wholly within the state containing the largest share of its population for purposes of computing its GAF. For Option 3 in this report, we defined metropolitan areas as unique combinations of metropolitan areas and states, as we did for Option 2. We included only the portion of a multi-state metropolitan area within a particular state in computing the GAF for that state's metropolitan area population categories. But we classified the portion of the metropolitan area into a population category based on the population of the entire metropolitan area in all states, not the portion of the population in a particular state. Portions of multi-state metropolitan areas in states that currently have a single payment locality remain with that single statewide FSA. As for Option 2, the Washington, D.C. PMSA retained its integrity as a single area; it was not divided into Maryland and Virginia portions.

For example, recall that the Memphis MSA (4920) has portions in Tennessee, Arkansas, and Mississippi (De Soto county). Since Tennessee and Arkansas currently have statewide localities, the portions of the Memphis MSA in these states remain part of their statewide locality under Option 3. De Soto county in Mississippi is placed in the 1 to 3 million metropolitan area population category based on the population of the entire Memphis MSA and is included in the Mississippi GAF computations by metropolitan area population category. As it turns out, De Soto county is the only Mississippi metropolitan area in the 1 to 3 million population category, so its GAF defines the GAF of this category for Mississippi.



### 2.2.1.3 Option 4

Option 4 is also based on metropolitan area population categories, but no vexing issues arise with multi-state metropolitan areas. This is because Option 4 incorporates all states, including those that currently have a single payment locality, and the metropolitan area population categories are nationwide, not by state. Multi-state metropolitan areas do not have to be classified into a particular state, and all counties in a metropolitan area (indeed, in a metropolitan area population class) have the same GAF under Option 4.

## 2.2.2 Review of the Computation of the Geographic Adjustment Factor for Metropolitan Counties

In interpreting the results presented in Chapter 3, and in Volume II of this report (maps), it may be helpful to review the calculation of GAFs for metropolitan counties. The main goal is to explain to the reader the circumstances under which the GAF differs among the counties comprising a metropolitan area. This knowledge may be particularly helpful in interpreting the results for state-specific portions of multi-state metropolitan areas under Options 2 and 3. Given that the computation of the county GAF is not the focus of this report, this section provides only a brief overview. More detailed explanations are available in Pope and Dayhoff (1994), Pope et al. (1994), and Zuckerman and Norton (1994).

In some metropolitan areas, all counties have the same GAF, but in others the GAF differs by county. The differences among metropolitan areas occur because MSAs and PMSAs were treated differently in the computation of the GPCIs. MSAs tend to be much less populous than PMSAs, and do not have adequate sample sizes in underlying input price data derived from the Decennial Census to compute county-specific GPCIs. Hence, MSA-wide GPCIs were computed for MSAs, but county-specific GPCIs for PMSAs. If the metropolitan area is an MSA<sup>3</sup> all counties in the MSA have identical quarter work GPCIs and practice expense GPCIs.<sup>4</sup> The only reason the GAF varies among the counties in an MSA is a different malpractice GCPI. This can occur, for instance, in a multi-state MSA when the two or more states in which the MSA is located have different malpractice GPCIs. For example, the Kansas and Missouri portions of the Kansas City, Kansas-Missouri MSA have the same work and practice expense

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<sup>3</sup>Or a NECMA other than Boston.

<sup>4</sup>Except for a few metropolitan counties (e.g., in the Atlanta MSA) that have differential rental indices derived from the Fair Market Rents defined by the Department of Housing and Urban Development. See Pope et al, 1994 for discussion of the practice expense GCPI rental index.

GPCIs, but the Missouri portion has a slightly higher GAF (0.983 versus 0.982) because of a higher malpractice GPCI.

If the metropolitan area is a PMSA<sup>5</sup> the quarter work and practice expense GPCIs are county-specific. Each county has its own GAF. An implication is that the parts of the metropolitan area in different states will (except by coincidence) have different GAFs.<sup>6</sup> For example, the GAF of the Pennsylvania portion of the Philadelphia, Pennsylvania-New Jersey PMSA is 1.066, whereas the GAF of the New Jersey portion of the same PMSA is 1.038. We will return to the implications of the different treatment of MSAs and PMSAs in the computation of the GAF in Chapter 3.

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<sup>5</sup>Or the Boston NECMA.

<sup>6</sup>Differences in the malpractice GPCI may also contribute to county or state differences.

### 3.0 RESULTS

Table 3-1 summarizes the number of FSAs by option and threshold (where applicable). All the options and thresholds reduce the current number of 210 payment localities substantially, by 50 percent or more in most cases. The number of states with multiple FSAs also declines under Options 1 and 2 (i.e., additional states are converted to a single statewide FSA), but not under Option 3<sup>1</sup>, and under Option 4, only Washington, D.C. and the Virgin Islands are single "statewide" FSAs.

We discuss the specific FSAs resulting from each option in Sections 3.2 to 3.5. First, however, we compare summary measures of payment accuracy and small area payment variations for selected Option 1 FSA variants to the current Medicare payment localities, statewide FSAs, and a single national FSA. This comparison indicates that the current localities can be aggregated and simplified, but only at a cost in reduced payment accuracy. Section 3.6 is an evaluation of the FSA options, and gives a rationale for our preferred option.

#### 3.1 Summary of Payment Accuracy and Small Area Payment Differences for Selected Fee Schedule Area Variants

The major goal of revising FSAs is to simplify the payment areas and reduce payment differences among adjacent geographic areas, while maintaining accuracy in tracking input price differences among areas. A summary measure of a FSA option's accuracy in tracking input prices is the average percentage difference between the county GAF and the GAF of the payment area to which that county is assigned. These differences are weighted by county physician services relative value units (RVUs) so that inaccuracies in areas where more services are provided are emphasized. A summary measure of payment differences among adjacent geographic areas in a FSA option is the average difference of the GAFs between unique pairs of contiguous counties, weighted by the sum of the RVUs of the two counties.

Table 3-2 shows these summary measures of input price accuracy and small area payment differences for selected FSA options. At one extreme is a single national FSA, that is, no geographic adjustments. Lack of a geographic adjustment obviously does not track input prices at all, resulting in an average payment error of 6.86 percent, but also avoids any payment boundaries (differences). At the other extreme is a FSA for each of the 3,223 counties. County payment areas perfectly track county input price differences, but have the greatest

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<sup>1</sup>If states with small intra-state input price variation became statewide FSAs as in the PPRC proposal (PPRC, 1992), the number of multi-locality states would decline under Option 3.

TABLE 3-1

## SUMMARY OF FEE SCHEDULE AREAS (FSAs) BY OPTION AND THRESHOLD

<u>Option</u>	<u>Threshold</u>	<u>Number of FSAs**</u>	<u>Number of "Statewide" FSAs***</u>	<u>Number of "States" with Multiple FSAs***</u>
Current*	N/A	210	25	28
1	10.0%	53	53	0
	5.0	61	47	6
	4.0	69	44	9
	3.5	75	41	12
	3.0	83	36	17
	2.5	87	34	19
	2.0	89	32	21
	1.5	97	30	23
	1.0	102	29	24
	0.5	105	27	26
	0.0	109	25	28
1i	6.0	78	43	10
	5.0	87	39	14
	4.0	94	36	17
	3.5	105	31	22
	3.0	115	28	25
2	10.0	53	53	0
	5.0	63	46	7
	4.0	70	42	11
	3.5	79	37	16
	3.0	85	34	19
	2.5	95	30	23
3	N/A	132	25	28
4	N/A	5	2 <sup>†</sup>	51 <sup>††</sup>

\* As of January 1, 1995.

\*\* The minimum number of FSAs is 53: 50 statewide FSAs plus one each for Puerto Rico, the Virgin Islands, and Washington, D.C.

\*\*\* Includes Puerto Rico, the Virgin Islands, and Washington, D.C. Thus, the maximum number of "statewide" FSAs and "states" with multiple FSAs is 53. These two columns always sum to 53.

† Washington, D.C. and the Virgin Islands.

†† Puerto Rico in addition to the 50 states.

N/A = not applicable.

TABLE 3-2

## PAYMENT ACCURACY AND SMALL AREA PAYMENT DIFFERENCES OF SELECTED FEE SCHEDULE AREA (FSA) OPTIONS

<u>Fee Schedule Area</u>	<u>Number of FSAs*</u>	<u>Average County/FSA Input Price Difference †, *</u>	<u>Average County Boundary Difference †, **</u>
National	1	6.86%	0.00%
States	53	4.06%	0.73%
Option 1, 3% Threshold	83	2.25%	1.67%
Option 1, Iterative, 5% Threshold	87	2.09%	1.78%
Option 1, 1% Threshold	102	1.91%	2.01%
Option 1, Iterative, 3.5% Threshold	105	1.90%	1.94%
1995 Medicare Payment Localities	210	1.67%	2.30%
Counties	3,223	0.00%	3.18%

\* Includes Puerto Rico, the Virgin Islands, and Guam.

\*\* Excludes Puerto Rico, the Virgin Islands, and Guam.

† Weighted by total physician services relative value units (RVUs)

NOTE: Input price accuracy is measured by the average absolute difference (weighted by total county RVUs) between the county Geographic Adjustment Factor (GAF) and the FSA GAF. Boundary differences are measured by the average absolute difference in county GAFs between all unique, contiguous county pairs, weighted by the sum of total RVUs of the contiguous counties.

SOURCE: HER File of 1996 County Input Prices.

number of, and largest average difference across, payment boundaries. The two extremes of a single national FSA and county FSAs highlight the tradeoff between tracking input price variations and avoiding payment differences among nearby areas.

Other FSA configurations track input prices more accurately than a single national area, at the cost of creating larger payment differences among nearby counties than a national area (Table 3-2). Differences remain smaller than with county FSAs, but input price variations are not captured as well. As compared to a single national FSA, creating 53 state FSAs (Puerto Rico, the Virgin Islands, and D.C. are considered "states") reduces average payment inaccuracy by 41 percent, from 6.86 percent to 4.06 percent, at the cost of creating an average payment difference among contiguous counties of 0.73 percent. The Option 1 FSA variants cut payment inaccuracy in half as compared with statewide areas, while increasing payment differences among contiguous counties by two to three times. The Option 1 FSA variants remain 14 to 35 percent less accurate than the current Medicare payment localities, but have half or fewer areas, and 13 to 27 percent smaller average payment differences among contiguous counties. Thus, the current payment localities can be simplified substantially, but only at a cost in lower payment accuracy.

We now proceed to discuss the results for each FSA option individually. Tables of GAFs by FSA are presented in this chapter. Maps of FSAs by option, threshold, and state are included in Volume III of this report, and should be consulted while reading this chapter. State maps are included only for states with multiple FSAs under a given option and threshold. Single-FSA states are shown on a national map. Under Options 1 and 2, a state map for a percentage threshold is included only if there has been some change in FSAs for that state from the previous threshold. National and regional, but not state, maps are used for Option 4. In a few cases, maps were prepared for metropolitan areas where the state maps do not show the FSAs clearly.

### **3.2 Option 1**

GAFs by FSA and percentage threshold under Option 1 are shown in Table 3-3. Appendix Table A-1 (Volume II) displays 1996 locality GAFs, state GAFs, and their percentage differences for all states and payment localities. Maps of Option 1 by threshold and state are included in Volume III of this report.

TABLE 3-3

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1  
 STATEWIDE FSAs EXCEPT FOR PAYMENT LOCALITIES THAT EXCEED THE STATEWIDE GAF BY MORE THAN A THRESHOLD\*

State	Fee Schedule Area	Threshold									
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%	0.5%
ALABAMA	BIRMINGHAM, AL	-	-	-	-	-	0.957	0.957	0.957	0.957	0.957
	NORTHWEST AL	-	-	-	-	-	-	-	-	-	0.939
	REST OF ALABAMA	0.932	0.932	0.932	0.932	0.932	0.922	0.922	0.922	0.922	0.918
ALASKA*	STATEWIDE	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128	1.128
ARIZONA	PHOENIX, AZ	-	-	-	-	-	-	-	-	-	1.002
	REST OF ARIZONA	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.981
ARKANSAS*	STATEWIDE	0.887	0.887	0.887	0.887	0.887	0.887	0.887	0.887	0.887	0.887
CALIFORNIA	SAN FRANCISCO, CA	-	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153	1.153
	SANTA CLARA, CA	-	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134	1.134
	SAN MATEO, CA	-	1.130	1.130	1.130	1.130	1.130	1.130	1.130	1.130	1.130
	LOS ANGELES	-	-	-	1.103	1.103	1.103	1.103	1.103	1.103	1.103
	OAKLAND/BERKLEY, CA	-	-	-	-	1.092	1.092	1.092	1.092	1.092	1.092
	ANAHEIM/SANTA ANA, CA	-	-	-	-	1.092	1.092	1.092	1.092	1.092	1.092
	VENTURA, CA	-	-	-	-	-	-	1.079	1.079	1.079	1.079
	MARIN/APA/SOLANO, CA	-	-	-	-	-	-	-	-	-	1.053
	REST OF CALIFORNIA	1.062	1.054	1.054	1.030	1.030	1.012	1.010	1.010	1.010	1.007
		0.966	0.966	0.966	0.966	0.966	0.966	0.966	0.966	0.966	0.966
CONNECTICUT	SOUTH WEST CONNECTICUT	-	-	-	-	1.143	1.143	1.143	1.143	1.143	1.143
	SOUTH CENTRAL CONNECTICUT	-	-	-	-	-	-	-	1.123	1.123	1.123
	REST OF CONNECTICUT	1.106	1.106	1.106	1.106	1.100	1.100	1.100	1.089	1.089	1.089
DELAWARE*	STATEWIDE	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015	1.015
DISTRICT OF COLUMBIA	DC + MARYLAND/VIRGINIA SUBURBS†	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105	1.105
FLORIDA	MIAMI, FL	-	1.114	1.114	1.114	1.114	1.114	1.114	1.114	1.114	1.114
	FORT LAUDERDALE, FL	-	-	-	-	1.055	1.055	1.055	1.055	1.055	1.055
	REST OF FLORIDA	1.024	1.008	1.008	1.008	0.984	0.984	0.984	0.984	0.984	0.984
GEORGIA	ATLANTA, GA	-	-	1.011	1.011	1.011	1.011	1.011	1.011	1.011	1.011
	REST OF GEORGIA	0.966	0.966	0.935	0.935	0.935	0.935	0.935	0.935	0.935	0.935
HAWAII/GUAM*	STATEWIDE	1.086	1.086	1.086	1.086	1.086	1.086	1.086	1.086	1.086	1.086
IDAHO	SOUTH IDAHO	-	-	-	-	-	-	-	-	-	0.914
	REST OF IDAHO	0.911	0.911	0.911	0.911	0.911	0.911	0.911	0.911	0.911	0.901
ILLINOIS	CHICAGO, IL	-	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066	1.066
	SUBURBAN CHICAGO, IL	-	-	-	1.050	1.050	1.050	1.050	1.050	1.050	1.050
	REST OF ILLINOIS	1.011	0.962	0.962	0.931	0.931	0.931	0.931	0.931	0.931	0.931
INDIANA	METROPOLITAN, IN	-	-	-	-	-	-	-	-	0.938	0.938
	REST OF INDIANA	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.909	0.909
IOWA*	STATEWIDE	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912	0.912
KANSAS	SUBURBAN KANSAS CITY, KA	-	-	-	0.982	0.982	0.982	0.982	0.982	0.982	0.982
	KANSAS CITY, KANSAS	-	-	-	0.982	0.982	0.982	0.982	0.982	0.982	0.982
	REST OF KANSAS	0.945	0.945	0.945	0.936	0.936	0.936	0.936	0.936	0.936	0.936
KENTUCKY	LEXINGTON & LOUISVILLE, KY	-	-	-	-	0.946	0.946	0.946	0.946	0.946	0.946
	REST OF KENTUCKY	0.921	0.921	0.921	0.921	0.921	0.904	0.904	0.904	0.904	0.904
LOUISIANA	NEW ORLEANS, LA	-	-	-	0.977	0.977	0.977	0.977	0.977	0.977	0.977
	BATON ROUGE, LA	-	-	-	-	-	-	-	-	-	0.944
	REST OF LOUISIANA	0.943	0.943	0.943	0.926	0.926	0.926	0.926	0.926	0.926	0.922

TABLE 3-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1  
 STATEWIDE FSAs EXCEPT FOR PAYMENT LOCALITIES THAT EXCEED THE STATEWIDE GAF BY MORE THAN A THRESHOLD\*

State	Fee Schedule Area	Threshold										
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%	0.5%	0.0%
MAINE	SOUTHERN MAINE	-	-	-	-	-	0.992	0.992	0.992	0.992	0.992	0.992
	REST OF MAINE	0.959	0.959	0.959	0.959	0.937	0.937	0.937	0.937	0.937	0.937	0.937
MARYLAND††	BALTIMORE/SURROUNDING COUNTYS, MD	-	-	-	-	-	-	-	1.032	1.032	1.032	1.032
	REST OF MARYLAND	1.016	1.016	1.016	1.016	1.016	1.016	1.016	0.964	0.964	0.964	0.964
MASSACHUSETTS	URBAN MASSACHUSETTS	-	-	-	-	-	-	-	-	-	1.084	1.084
	REST OF MASSACHUSETTS	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.075	1.049	1.049
MICHIGAN	DETROIT, MI	-	-	1.137	1.137	1.137	1.137	1.137	1.137	1.137	1.137	1.137
	REST OF MICHIGAN	1.082	1.082	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012	1.012
MINNESOTA*	STATEWIDE	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961	0.961
MISSISSIPPI	URBAN MISSISSIPPI	-	-	-	-	-	-	-	0.913	0.913	0.913	0.913
	REST OF MISSISSIPPI	0.899	0.899	0.899	0.899	0.899	0.899	0.899	0.883	0.883	0.883	0.883
MISSOURI	NORTH KANSAS CITY (CLAY/PLATTE), MO	-	-	-	-	0.983	0.983	0.983	0.983	0.983	0.983	0.983
	KANSAS CITY (JACKSON COUNTY), MO	-	-	-	-	0.983	0.983	0.983	0.983	0.983	0.983	0.983
	ST. LOUIS/LARGE EASTERN CITIES, MO	-	-	-	-	-	-	-	-	0.968	0.968	0.968
	REST OF MISSOURI	0.954	0.954	0.954	0.954	0.947	0.947	0.947	0.947	0.902	0.902	0.902
MONTANA*	STATEWIDE	0.907	0.907	0.907	0.907	0.907	0.907	0.907	0.907	0.907	0.907	0.907
NEBRASKA*	STATEWIDE	0.894	0.894	0.894	0.894	0.894	0.894	0.894	0.894	0.894	0.894	0.894
NEVADA	RENO, CARSON CITY, SPARKS, NV	-	-	-	-	-	-	-	-	-	-	1.013
	REST OF NEVADA	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.010	1.009
NEW HAMPSHIRE*	STATEWIDE	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
NEW JERSEY	NORTHERN NEW JERSEY	-	-	-	-	-	-	1.109	1.109	1.109	1.109	1.109
	EAST OF NEW JERSEY	1.085	1.085	1.085	1.085	1.085	1.085	1.051	1.051	1.051	1.051	1.051
NEW MEXICO*	STATEWIDE	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937
NEW YORK	MANHATTAN, NY	-	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225	1.225
	BROOKLYN/BRONX/NYC SUB J/LONG ISLAND, NY	-	-	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170	1.170
	QUEENS, NY	-	-	1.163	1.163	1.163	1.163	1.163	1.163	1.163	1.163	1.163
	REST OF NEW YORK	1.115	1.092	0.982	0.982	0.982	0.982	0.982	0.982	0.982	0.982	0.982
NORTH CAROLINA*	STATEWIDE	0.924	0.924	0.924	0.924	0.924	0.924	0.924	0.924	0.924	0.924	0.924
NORTH DAKOTA*	STATEWIDE	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898	0.898
OHIO*	STATEWIDE	0.973	0.973	0.973	0.973	0.973	0.973	0.973	0.973	0.973	0.973	0.973
OKLAHOMA*	STATEWIDE	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910	0.910
OREGON	PORTLAND, ET AL. (CITIES), OR	-	-	-	-	0.981	0.981	0.981	0.981	0.981	0.981	0.981
	REST OF OREGON	0.949	0.949	0.949	0.949	0.934	0.934	0.934	0.934	0.934	0.934	0.934
PENNSYLVANIA	PHILLY/PITT MED SCHLS/HOSPITALS	-	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041	1.041
	LARGE PENNSYLVANIA CITIES	-	-	-	-	-	-	-	-	1.001	1.001	1.001
	REST OF PENNSYLVANIA	0.990	0.976	0.976	0.976	0.976	0.976	0.976	0.976	0.939	0.939	0.939
PUERTO RICO	PUERTO RICO	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794	0.794
RHODE ISLAND*	STATEWIDE	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068	1.068
SOUTH CAROLINA*	STATEWIDE	0.915	0.915	0.915	0.915	0.915	0.915	0.915	0.915	0.915	0.915	0.915



TABLE 3-3 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1.  
 STATEWIDE FSAs EXCEPT FOR PAYMENT LOCALITIES THAT EXCEED THE STATEWIDE GAF BY MORE THAN A THRESHOLD\*

State	Fee Schedule Area	Threshold										
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%	2.0%	1.5%	1.0%	0.5%	0.0%
SOUTH DAKOTA*	STATEWIDE	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880	0.880
TENNESSEE*	STATEWIDE	0.923	0.923	0.923	0.923	0.923	0.923	0.923	0.923	0.923	0.923	0.923
TEXAS	HOUSTON, TX	-	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034	1.034
	DALLAS, TX	-	-	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006	1.006
	BRAZORIA, TX	-	-	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003	1.003
	GALVESTON, TX	-	-	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001	1.001
	AUSTIN, TX	-	-	-	-	-	-	-	0.979	0.979	0.979	0.979
	FORT WORTH, TX	-	-	-	-	-	-	-	0.977	0.977	0.977	0.977
	BEAUMONT, TX	-	-	-	-	-	-	-	0.973	0.973	0.973	0.973
	REST OF TEXAS	0.962	0.947	0.934	0.934	0.934	0.934	0.934	0.927	0.924	0.924	0.924
UTAH*	STATEWIDE	0.926	0.926	0.926	0.926	0.926	0.926	0.926	0.926	0.926	0.926	
VERMONT*	STATEWIDE	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	
VIRGIN ISLANDS	VIRGIN ISLANDS	0.974	0.974	0.974	0.974	0.974	0.974	0.974	0.974	0.974	0.974	
VIRGINIA†††	RICHMOND & CHARLOTTEVILLE, VA	-	-	-	-	0.975	0.975	0.975	0.975	0.975	0.975	0.975
	TIDEWATER & NORTHERN VIRGINIA CNTYS	-	-	-	-	-	-	-	-	0.958	0.958	0.958
	REST OF VIRGINIA	0.944	0.944	0.944	0.944	0.933	0.933	0.933	0.933	0.918	0.918	0.918
WASHINGTON	SEATTLE (KING CNTY), WA	-	-	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023	1.023
	REST OF WASHINGTON	0.982	0.982	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.962	0.962
WEST VIRGINIA	CHARLESTON, WV	-	-	-	-	-	-	0.941	0.941	0.941	0.941	0.941
	EASTERN VALLEY, WV	-	-	-	-	-	-	0.937	0.937	0.937	0.937	0.937
	REST OF WEST VIRGINIA	0.919	0.919	0.919	0.919	0.919	0.919	0.908	0.907	0.907	0.907	0.907
WISCONSIN	MADISON (DANE CNTY), WI	-	-	-	1.002	1.002	1.002	1.002	1.002	1.002	1.002	1.002
	MILWAUKEE, WI	-	-	-	-	0.999	0.999	0.999	0.999	0.999	0.999	0.999
	SOUTHEASTERN MILWAUKEE SUBURBS, WI	-	-	-	-	-	-	-	0.985	0.985	0.985	0.985
	REST OF WISCONSIN	0.968	0.968	0.968	0.964	0.949	0.949	0.949	0.941	0.941	0.941	0.941
WYOMING*	STATEWIDE	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925	0.925
TOTAL NUMBER OF FEE SCHEDULE AREAS		53	61	69	75	83	87	89	97	102	105	109
NUMBER OF STATES WITH MULTIPLE FSAs		0	6	9	12	17	19	21	23	24	26	28
NUMBER OF STATEWIDE** FSAs		53	47	44	41	36	34	32	30	29	27	25

\* FSAs that are statewide as of January 1, 1995 remain statewide areas.

\*\* Includes Puerto Rico, the Virgin Islands, and Washington, D.C.

† GAF for District of Columbia only is 1.122.

†† Excludes Maryland counties in the Washington, D.C. payment locality. The statewide Maryland GAF including these counties is 1.038.

††† Excludes Virginia counties in the Washington, D.C. payment locality. The statewide Virginia GAF including these counties is 0.966.

NOTE: Based on Medicare payment localities defined as of January 1, 1995. GAFs are derived from GPCIs rescaled for budget neutrality.

SOURCE: Health Economics Research, Inc. file of county input prices.

We decided to use thresholds ranging from 10 percent to 0.0 percent for Option 1<sup>2</sup>. At 10 percent, all 53 FSAs are single, statewide localities (including Washington, D.C., Puerto Rico, and the Virgin Islands as three additional "states"). At a threshold of 0.0, all payment localities with input prices exceeding the state average remain distinct FSAs<sup>3</sup>. The payment localities that remain FSAs at any other threshold can be determined by consulting Table A-1.

At the 5 percent threshold as compared with the 10 percent threshold, only eight additional payment localities become FSAs: San Francisco, San Mateo, and Santa Clara, California; Miami, Florida; Chicago, Illinois; Houston, Texas; Manhattan, New York; and Philadelphia/Pittsburgh Medical Schools and Hospitals. These are the localities with the highest input prices relative to their state averages. From 3 to 8 additional localities become FSAs at each reduction of the threshold from 5 percent to 0.0 percent. At the 0.0 percent threshold, there are 109 FSAs compared with 210 current payment localities.

We believe that a threshold of 3.5 percent or lower is desirable under Option 1. Above 3.5 percent, some major metropolitan areas--Los Angeles,<sup>4</sup> for example--do not become distinct FSAs, resulting in inaccurate tracking of input prices when these metropolitan areas are included with the residual state area. A case can be made for a 3 percent or 2.5 percent threshold. At a 3.5 percent threshold, the Kansas, but not the Missouri, side of Kansas City has become a distinct FSA, creating a 3 percentage point difference within this metropolitan area. Also, in Wisconsin, Madison, but not Milwaukee, has become a FSA. At the 3 percent threshold, Kansas City, Missouri and Milwaukee have become additional FSAs. At a 2.5 percent threshold, Oakland/Berkeley, California and Santa Ana/Anaheim, California have become FSAs, reducing significant GAF differences at higher thresholds between them and nearby FSAs such as San Francisco and Los Angeles, respectively. At a 1.5 percent threshold, Ventura, California, Baltimore, Maryland, Fort Worth, Texas, and the Milwaukee suburbs become distinct FSAs, reducing significant GAF differences with nearby areas (Los Angeles, Washington, D.C., Dallas, and Milwaukee, respectively). At a 1.0 percent threshold, "St. Louis/large eastern cities, Missouri", "large Pennsylvania cities", and "Tidewater/North Virginia cities" become FSAs, all of which have significantly higher input prices than the remaining rest of state areas.

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<sup>2</sup>Maps (Volume III) were produced only for thresholds ranging from 10% to 2.5%.

<sup>3</sup>Since at least one locality will have above average input prices in all multi-locality states, the states that have only a single statewide locality at the zero threshold are the current single-locality states.

<sup>4</sup>We have aggregated the eight current Los Angeles localities into one.

Overall, we prefer the 1.0 percent Option 1 threshold, with 102 FSAs. It appears to "break out" enough FSAs to track input prices accurately, but still cuts the current number of FSAs in half. The zero threshold (109 areas) also has some appeal, as any current payment locality with input prices exceeding its state average remains a distinct FSA. If the goal of policymakers is to consolidate as many FSAs as possible, higher thresholds with fewer FSAs and multi-FSA states would be preferred.

Option 1 has several advantages. By using the current payment localities as building blocks, it is the most conservative of the options. GAFs for the largest, highest-price cities and metropolitan areas will not change under this option. Neither will the GAFs of single-locality states. Many smaller cities and rural areas are combined into residual state areas, eliminating GAF differences among these areas and substantially reducing the number of FSAs. Since these areas usually have the smallest input price differences, combining them reduces the number of FSA at the smallest loss in accuracy of input price tracking. Under Option 1, rural areas gain, while mid-sized cities tend to be the largest losers. Small cities tend to lose, but not greatly because their GAFs are often not much higher than the GAFs of rural areas. Option 1 also imposes the least administrative burden on HCFA because it utilizes the current locality administrative structure.

The disadvantages of Option 1 are the tradeoffs that must be incurred to gain its advantages. It does not track input prices as accurately as the current localities, especially differences that occur among small to moderate-sized cities and rural areas within a state. Although GAF differences among small cities and rural areas within a state are eliminated, other GAF differences across boundaries are created or exacerbated by Option 1. In some states, rural payment localities are combined with larger, higher-cost cities, increasing GAF differences at state borders. For example, the difference in 1996 GAFs between the current payment localities "Northeast Rural California" and "Rest of Oregon" is 0.952 versus 0.924 (2.8 percentage points). Under Option 1, even at the 0.0 percent threshold, the difference (between "Rest of California" and "Rest of Oregon") more than doubles to 1.007 versus 0.934 (7.3 percentage points). Differences across rural state boundaries under Option 1 generally tend to be larger than current differences.

GAF differences between large cities and smaller cities can also be exacerbated by Option 1. For example, with the current payment localities, the contiguous California counties of Los Angeles and Ventura have 1996 GAFs of 1.103 and 1.079, respectively, a 2.4 percentage point difference. Under Option 1, Ventura is combined with the residual "Rest of California" FSA for all thresholds greater than 1.5 percent. Its GAF (under a 2.5 percent threshold) is reduced to 1.012, while Los Angeles's GAF remains at 1.103, a difference of 9.1 percentage points. Other examples of Option 1 increasing boundary differences can be cited (all these

cases assume a 2.5 percent threshold): Marin versus San Francisco, California (1.153/1.012 under Option 1 versus 1.153/1.063 with current localities); Dallas versus Fort Worth, Texas (1.006/0.934 under Option 1 versus 1.006/0.977 currently); and Milwaukee versus Milwaukee suburbs (0.999/0.949 under Option 1 versus 0.999/0.985 currently).

In general, in states with a large range of GAFs among payment localities--such as California, Texas, New York, and Illinois--the mid-sized cities and metropolitan areas tend to be combined with the residual "rest of state" area. Their GAFs are sharply reduced and rural area GAFs are raised, lessening the accuracy of input price tracking, and creating unwarranted boundary differences between mid-sized and large cities, and at rural state boundaries. Lowering the percentage threshold--perhaps to 1.5 percent, or even to zero--is one way to ameliorate this problem, at the "cost" of a slightly larger number of FSAs. Another solution is the variant of Option 1 discussed in the next section.

Another characteristic of Option 1 that tends to reduce its accuracy in tracking input prices is its asymmetry in "breaking out" high price areas, but not low price areas. This can result in single statewide FSAs with significant intra-state variation in input prices (i.e., in the GAF). For example, Maryland becomes a statewide FSA under Option 1, at all thresholds exceeding 1.5 percent. But the GAF in Maryland ranges from 1.032 in the current Baltimore locality to 0.955 in the Western Maryland locality. Baltimore dominates the state average GAF of 1.016, which it exceeds by only 1.6 percent, whereas Western Maryland's GAF falls short of the average by 6 percent. The relatively high GAF in western Maryland results in potential overpayment there, as well as marked differences with payment in nearby areas of West Virginia and Pennsylvania. In general, significant intra-FSA input price variation may remain in states in which the state average GAF is dominated by a large, high-price city. Either this state becomes a single FSA, as is the case in Maryland, or the largest city becomes a FSA, but mid-sized cities do not, so that considerable variation remains in the "rest of state" residual area including mid-sized cities and rural areas. A solution to this shortcoming of Option 1 is to exclude the locality under consideration from the residual state area to which it is compared. We adopted this procedure for Option 1i (next section).

### 3.2.1 Option 1i (Option 1, Iterated)

GAFs by FSA and percentage threshold under Option 1i are shown in Table 3-4. Maps of Option 1i for 5 percent and 3.5 percent thresholds are included in Volume III of this report. We computed Option 1i for thresholds ranging from 6 percent to 3 percent. This seemed to be the threshold range of greatest interest, with the number of FSAs ranging from 78 to 115. Thresholds lower than 3 percent result in a relatively large number of FSAs, whereas

TABLE 3-4

GEOGRAPHIC ADJUSTMENT FACTORS (GAFFS) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1i  
(ITERATED OPTION 1)\*

State	Fee Schedule Area	THRESHOLD				
		6.0%	5.0%	4.0%	3.5%	3.0%
ALABAMA	BIRMINGHAM, AL	-	-	-	0.957	0.957
	REST OF STATE	0.932	0.932	0.932	0.922	0.922
ALASKA*	STATEWIDE	1.128	1.128	1.128	1.128	1.128
ARIZONA	STATEWIDE	0.995	0.995	0.995	0.995	0.995
ARKANSAS*	STATEWIDE	0.887	0.887	0.887	0.887	0.887
CALIFORNIA	SAN FRANCISCO, CA	1.153	1.153	1.153	1.153	1.153
	SANTA CLARA, CA	1.134	1.134	1.134	1.134	1.134
	SAN MATEO, CA	1.130	1.130	1.130	1.130	1.130
	LOS ANGELES, CA	1.103	1.103	1.103	1.103	1.103
	ANAHEIM/SANTA ANA, CA	1.092	1.092	1.092	1.092	1.092
	OAKLAND/BERKLEY, CA	1.092	1.092	1.092	1.092	1.092
	VENTURA, CA	1.079	1.079	1.079	1.079	1.079
	MARIN/NAPA/SOLANO, CA	-	1.063	1.063	1.063	1.063
	MONTEREY/SANTA CRUZ, CA	-	-	-	1.044	1.044
	SANTA BARBARA, CA	-	-	-	1.042	1.042
	REST OF STATE	1.010	1.007	1.007	1.003	1.003
COLORADO*	STATEWIDE	0.966	0.966	0.966	0.966	0.966
CONNECTICUT	SOUTHWEST CONNECTICUT	-	-	-	1.143	1.143
	SOUTH CENTRAL CONNECTICUT	-	-	-	-	1.123
	REST OF STATE	1.106	1.106	1.106	1.100	1.089
DELAWARE*	STATEWIDE	1.015	1.015	1.015	1.015	1.015
DISTRICT OF COLUMBIA	DC +MD/VA SUBURBS†	1.105	1.105	1.105	1.105	1.105
FLORIDA	MIAMI, FL	1.114	1.114	1.114	1.114	1.114
	FORT LAUDERDALE, FL	1.055	1.055	1.055	1.055	1.055
	REST OF STATE	0.984	0.984	0.984	0.984	0.984
GEORGIA	ATLANTA, GA	1.011	1.011	1.011	1.011	1.011
	REST OF STATE	0.935	0.935	0.935	0.935	0.935

TABLE 3-4 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFS) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1i  
(ITERATED OPTION 1)\*

State	Fee Schedule Area	THRESHOLD				
		6.0%	5.0%	4.0%	3.5%	3.0%
HAWAII/GUAM*	STATEWIDE	1.086	1.086	1.086	1.086	1.086
IDAHO	STATEWIDE	0.911	0.911	0.911	0.911	0.911
ILLINOIS	CHICAGO, IL	1.066	1.066	1.066	1.066	1.066
	SUBURBAN CHICAGO, IL	1.050	1.050	1.050	1.050	1.050
	EAST ST. LOUIS, IL	-	0.974	0.974	0.974	0.974
	SPRINGFIELD, IL	-	-	0.961	0.961	0.961
	ROCKFORD, IL	-	-	0.955	0.955	0.955
	PEORIA, IL	-	-	-	-	0.938
	REST OF STATE	0.931	0.924	0.913	0.913	0.909
INDIANA	METROPOLITAN IN	-	-	-	-	0.938
	REST OF STATE	0.925	0.925	0.925	0.925	0.909
IOWA*	STATEWIDE	0.912	0.912	0.912	0.912	0.912
KANSAS	KANSAS CITY, KANSAS	-	-	0.982	0.982	0.982
	SUBURBAN KANSAS CITY, KS	-	-	0.982	0.982	0.982
	REST OF STATE	0.945	0.945	0.936	0.936	0.936
KENTUCKY	LEXINGTON & LOUISVILLE, KY	-	-	0.946	0.946	0.946
	REST OF STATE	0.921	0.921	0.904	0.904	0.904
LOUISIANA	NEW ORLEANS, LA	-	0.977	0.977	0.977	0.977
	REST OF STATE	0.943	0.926	0.926	0.926	0.926
MAINE	SOUTHERN MAINE	-	0.992	0.992	0.992	0.992
	REST OF STATE	0.959	0.937	0.937	0.937	0.937
MARYLAND††	BALTIMORE/SURR. CNTYS, MD	1.032	1.032	1.032	1.032	1.032
	REST OF STATE	0.964	0.964	0.964	0.964	0.964
MASSACHUSETTS	URBAN MASS	-	-	-	-	1.084
	REST OF STATE	1.075	1.075	1.075	1.075	1.049

TABLE 3-4 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFS) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 11  
(ITERATED OPTION 1)\*

<u>State</u>	<u>Fee Schedule Area</u>	<u>THRESHOLD</u>				
		<u>6.0%</u>	<u>5.0%</u>	<u>4.0%</u>	<u>3.5%</u>	<u>3.0%</u>
MICHIGAN	DETROIT, MI	1.137	1.137	1.137	1.137	1.137
	REST OF STATE	1.012	1.012	1.012	1.012	1.012
MINNESOTA*	STATEWIDE	0.961	0.961	0.961	0.961	0.961
MISSISSIPPI	URBAN MISSISSIPPI	-	-	-	-	0.913
	REST OF STATE	0.899	0.899	0.899	0.899	0.883
MISSOURI	K.C. (JACKSON CNTY), MO	-	-	-	0.983	0.983
	N K.C. (CLAY/PLATTE), MO	-	-	-	0.983	0.983
	ST. LOUIS/LG E. CITIES, MO	-	-	-	0.968	0.968
	REST OF STATE	0.954	0.954	0.954	0.902	0.902
MONTANA*	STATEWIDE	0.907	0.907	0.907	0.907	0.907
NEBRASKA*	STATEWIDE	0.894	0.894	0.894	0.894	0.894
NEVADA	STATEWIDE	1.010	1.010	1.010	1.010	1.010
NEW HAMPSHIRE*	STATEWIDE	1.003	1.003	1.003	1.003	1.003
NEW JERSEY	NORTHERN NJ	-	1.109	1.109	1.109	1.109
	REST OF STATE	1.085	1.051	1.051	1.051	1.051
NEW MEXICO*	STATEWIDE	0.937	0.937	0.937	0.937	0.937
NEW YORK	MANHATTAN, NY	1.225	1.225	1.225	1.225	1.225
	NYC SUBURBS/LONG I., NY	1.170	1.170	1.170	1.170	1.170
	QUEENS, NY	1.163	1.163	1.163	1.163	1.163
	POUGHKPSIE/N NYC SUBURBS, N	1.050	1.050	1.050	1.050	1.050
	REST OF STATE	0.973	0.973	0.973	0.973	0.973
NORTH CAROLINA*	STATEWIDE	0.924	0.924	0.924	0.924	0.924
NORTH DAKOTA*	STATEWIDE	0.898	0.898	0.898	0.898	0.898
OHIO*	STATEWIDE	0.973	0.973	0.973	0.973	0.973
OKLAHOMA*	STATEWIDE	0.910	0.910	0.910	0.910	0.910

TABLE 3-4 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFS) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1i  
(ITERATED OPTION 1)\*

State	Fee Schedule Area	THRESHOLD				
		6.0%	5.0%	4.0%	3.5%	3.0%
OREGON	PORTLAND, ET AL. (CITIES), OR	-	0.981	0.981	0.981	0.981
	REST OF STATE	0.949	0.934	0.934	0.934	0.934
PENNSYLVANIA	PHILLY/PITT MED SHCLS/HOSP.	1.041	1.041	1.041	1.041	1.041
	LARGE PENNSYLVANIA CITIES	1.001	1.001	1.001	1.001	1.001
	REST OF STATE	0.939	0.939	0.939	0.939	0.939
PUERTO RICO	PUERTO RICO	0.794	0.794	0.794	0.794	0.794
RHODE ISLAND*	STATEWIDE	1.068	1.068	1.068	1.068	1.068
SOUTH CAROLINA*	STATEWIDE	0.915	0.915	0.915	0.915	0.915
SOUTH DAKOTA*	STATEWIDE	0.880	0.880	0.880	0.880	0.880
TENNESSEE*	STATEWIDE	0.923	0.923	0.923	0.923	0.923
TEXAS	HOUSTON, TX	1.034	1.034	1.034	1.034	1.034
	DALLAS, TX	1.006	1.006	1.006	1.006	1.006
	BRAZORIA, TX	1.003	1.003	1.003	1.003	1.003
	GALVESTON, TX	1.001	1.001	1.001	1.001	1.001
	AUSTIN, TX	-	0.979	0.979	0.979	0.979
	FORT WORTH, TX	-	0.977	0.977	0.977	0.977
	BEAUMONT, TX	-	0.973	0.973	0.973	0.973
	DENTON, TX	-	-	-	-	0.955
	SAN ANTONIO, TX	-	-	-	-	0.949
	MIDLAND, TX	-	-	-	-	0.946
	ODESSA, TX	-	-	-	-	0.946
	REST OF STATE	0.934	0.924	0.924	0.924	0.918
UTAH*	STATEWIDE	0.926	0.926	0.926	0.926	0.926
VERMONT*	STATEWIDE	0.955	0.955	0.955	0.955	0.955
VIRGIN ISLANDS	VIRGIN ISLANDS	0.974	0.974	0.974	0.974	0.974



TABLE 3-4 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 1i  
(ITERATED OPTION 1)\*

State	Fee Schedule Area	THRESHOLD				
		6.0%	5.0%	4.0%	3.5%	3.0%
VIRGINIA†††	RICHMOND & CHARLOTTESVILLE	-	-	0.975	0.975	0.975
	TIDEWATER & N VA CNTYS	-	-	0.958	0.958	0.958
	REST OF STATE	0.966	0.966	0.918	0.918	0.918
WASHINGTON	SEATTLE (KING CNTY), WA	1.023	1.023	1.023	1.023	1.023
	REST OF STATE	0.962	0.962	0.962	0.962	0.962
WEST VIRGINIA	CHARLESTON, WV	-	-	-	0.941	0.941
	EASTERN VALLEY, WV	-	-	-	-	0.937
	REST OF STATE	0.919	0.919	0.919	0.908	0.907
WISCONSIN	MADISON (DANE CNTY), WI	-	-	-	1.002	1.002
	MILWAUKEE, WI	-	-	-	0.999	0.999
	MILWAUKEE SUBURBS (SE), WI	-	-	-	0.985	0.985
	REST OF STATE	0.968	0.968	0.968	0.941	0.941
WYOMING*	STATEWIDE	0.925	0.925	0.925	0.925	0.925
TOTAL NUMBER OF FEE SCHEDULE AREAS		78	87	94	105	115
NUMBER OF STATES WITH MULTIPLE FSAs		10	14	17	22	25
NUMBER OF STATEWIDE** FSAs		43	39	36	31	28

\* FSAs that are statewide as of January 1, 1995 remain statewide areas.

\*\* Includes Puerto Rico, the Virgin Islands, and Washington, D.C.

† The District of Columbia payment localities includes suburban Maryland and Virginia counties.

†† Excludes Maryland counties in the Washington D.C. payment locality. The statewide Maryland GAF including these counties is 1.039.

††† Excludes Virginia counties in the Washington, D.C. payment locality. The statewide Virginia GAF including these counties is 0.966.

NOTE: Based on Medicare payment localities defined as of January 1, 1995. GAFs are derived from GPCs rescaled for budget neutrality.

SOURCE: Health Economics Research, Inc. file of county input prices.

thresholds higher than 6 percent may not break out enough FSAs to accurately track input prices.

As expected, Option 1i leads to a larger number of FSAs at any threshold than Option 1. For example, at a 3 percent threshold, Option 1 has 83 FSAs whereas Option 1i has 115, 39 percent more. As expected, Option 1i breaks out more payment localities in large states containing payment localities with a wide range of GAFs. Santa Barbara, California, East St. Louis, Illinois, and San Antonio, Texas are examples of mid-sized cities in large states that become distinct FSAs in Option 1i at certain thresholds, but never "break out" of the residual statewide area in Option 1, even at a zero threshold.

It makes sense to compare Options 1 and 1i for thresholds at which each defines a similar number of FSAs. For example, Option 1 defines 87 FSAs at the 2.5 percent threshold, and Option 1i defines 87 FSAs at the 5 percent threshold. This comparison shows that Marin/Napa and Ventura, California, East St. Louis, Illinois, Poughkeepsie/North New York City suburbs, Baltimore, Maryland, Northern New Jersey, and Beaumont, Fort Worth, and Austin, Texas are FSAs in Option 1i, but not Option 1. Conversely, Birmingham, Alabama, South West Connecticut, Lexington and Louisville, Kentucky, Kansas City, Kansas and Missouri, Richmond and Charlottesville, Virginia, and Madison and Milwaukee, Wisconsin are FSAs in Option 1, but not Option 1i. For a given number of total FSAs, Option 1i defines more mid-sized cities/areas in large states as distinct FSAs, whereas Option 1 defines more FSAs in smaller states. In Option 1 (2.5 percent threshold), 19 states have multiple FSAs, but in Option 1i (5 percent threshold), only 14 do, despite an identical total number of FSAs in the two Options.

Option 1i has the advantage of consistently defining homogeneous residual state FSAs in which no payment locality's GAF exceeds the FSA average by more than the threshold. Concomitantly, relatively high-priced mid-size cities in large states become distinct FSAs, unlike Option 1. A disadvantage of Option 1i is that, especially at lower thresholds, it defines a large number of FSAs in certain populous states. For instance, Texas contains 12 FSAs and California 11 at the 3 percent threshold. Although an improvement over the 32 current payment localities in Texas, and the 21 California localities<sup>5</sup>, this number may be larger than desirable.

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<sup>5</sup>Counting Los Angeles as one locality rather than eight.

### 3.3 Option 2

GAFs by FSA and percentage threshold under Option 2 are shown in Table 3-5. Appendix Table A-2 displays 1996 metropolitan area GAFs, state GAFs, and their percentage differences for all states and metropolitan areas. Maps of Option 2 by threshold and state are included in Volume III of this report. Appendix Table A-3 shows GAFs by FSA and threshold for Option 2 when it is extended to all states, including states that currently have a single statewide locality. (We call this Option 2A.) We used the following percentage thresholds for Option 2 and Option 2A: 10 percent, 5 percent, 4 percent, 3.5 percent, 3 percent, and 2.5 percent.

In general, Options 1 and 2 produce similar results. At a given percentage threshold, the number of FSAs is slightly higher under Option 2 than Option 1 (see Table 3-1). The individual metropolitan areas that become Option 2 FSAs at a given threshold are similar to the payment localities that become Option 1 FSAs at the same threshold. The same issues of exacerbation of boundary differences between large and mid-size cities in some states, and at rural state borders, occur.

A significant difference is that the metropolitan areas used in Option 2 are usually larger than the corresponding payment localities used in Option 1. For instance, on the maps in Volume III, compare the Washington, D.C. payment locality to the Washington, D.C. PMSA; the Dallas locality with the Dallas PMSA; the Chicago payment locality to the Chicago PMSA; the Houston locality with the Houston PMSA. The payment locality often consists of just the high-cost urban core county or counties—e.g., Montgomery, Prince George's, and Fairfax counties around the District of Columbia; Dallas county, Texas; Cook county, Illinois; and Harris county, Texas. The PMSA typically combines the core urban county or counties with the surrounding suburban ring counties.

So one factor in choosing between Options 1 and 2 is whether suburban counties should be included with the high-cost urban core, or with the rest of state residual FSA. On the one hand, creating payment boundaries within metropolitan areas may be undesirable, which would favor the PMSA FSA definition. On the other hand, input prices in suburban counties may be significantly lower than in the urban core, and more similar to prices in the residual state area. This may be especially true of some essentially rural counties on the fringes of metropolitan areas that the Census Bureau considers metropolitan based on commuting patterns. The current Medicare payment localities are more likely to avoid including these counties in the large urban FSAs.

At lower percentage thresholds, the difference in treatment of suburban counties between Options 1 and 2 is less pronounced because more suburban localities (e.g., "Suburban

TABLE 3-5

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 2  
 STATEWIDE FSAs EXCEPT FOR METROPOLITAN AREAS EXCEEDING THE STATEWIDE GAF BY MORE THAN A THRESHOLD \*

State	Fee Schedule Area	Threshold					
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%
ALABAMA	Huntsville, AL MSA	-	-	-	-	-	0.959
	Birmingham, AL MSA	-	-	-	-	-	0.958
	REST OF ALABAMA	0.932	0.932	0.932	0.932	0.932	0.917
ALASKA*	STATEWIDE	1.128	1.128	1.128	1.128	1.128	1.128
ARIZONA	Las Vegas, NV-AZ MSA (Mohave County)	-	-	-	1.030	1.030	1.030
	REST OF ARIZONA	0.995	0.995	0.995	0.994	0.994	0.994
ARKANSAS*	STATEWIDE	0.887	0.887	0.887	0.887	0.887	0.887
CALIFORNIA	San Francisco, CA PMSA	-	1.141	1.141	1.141	1.141	1.141
	San Jose, CA PMSA	-	1.133	1.133	1.133	1.133	1.133
	Los Angeles-Long Beach, CA PMSA	-	-	-	1.103	1.103	1.103
	Orange County, CA PMSA	-	-	-	-	-	1.092
	Oakland, CA PMSA	-	-	-	-	-	1.091
	REST OF CALIFORNIA	1.061	1.054	1.054	1.029	1.029	1.011
COLORADO*	STATEWIDE	0.966	0.966	0.966	0.966	0.966	0.966
CONNECTICUT	STATEWIDE	1.106	1.106	1.106	1.106	1.106	1.106
DELAWARE*	STATEWIDE	1.015	1.015	1.015	1.015	1.015	1.015
DISTRICT OF COLUMBIA	WASHINGTON, D.C. PMSA †	1.090	1.090	1.090	1.090	1.090	1.090
FLORIDA	Miami, FL PMSA	-	1.116	1.116	1.116	1.116	1.116
	Fort Lauderdale, FL PMSA	-	1.100	1.100	1.100	1.100	1.100
	West Palm Beach-Boca Raton, FL MSA	-	-	-	1.063	1.063	1.063
	REST OF FLORIDA	1.023	0.995	0.995	0.986	0.986	0.986
GEORGIA	Atlanta, GA MSA	-	-	1.010	1.010	1.010	1.010
	REST OF GEORGIA	0.966	0.966	0.932	0.932	0.932	0.932
HAWAII/GUAM*	STATEWIDE	1.086	1.086	1.086	1.086	1.086	1.086
IDAHO	STATEWIDE	0.911	0.911	0.911	0.911	0.911	0.911
ILLINOIS	Chicago, IL PMSA	-	-	1.061	1.061	1.061	1.061
	REST OF ILLINOIS	1.011	1.011	0.929	0.929	0.929	0.929
INDIANA	Indianapolis, IN MSA	-	-	-	-	-	0.950
	Gary, IN PMSA	-	-	-	-	-	0.949
	REST OF INDIANA	0.925	0.925	0.925	0.925	0.925	0.907

TABLE 3-5 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 2:  
 STATEWIDE FSAs EXCEPT FOR METROPOLITAN AREAS EXCEEDING THE STATEWIDE GAF BY MORE THAN A THRESHOLD \*

State	Fee Schedule Area	Threshold					
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%
IOWA*	STATEWIDE	0.912	0.912	0.912	0.912	0.912	0.912
KANSAS	Kansas City, MO-KS MSA	-	-	-	0.982	0.982	0.982
	Wichita, KS MSA	-	-	-	-	-	0.970
	REST OF KANSAS	0.945	0.945	0.945	0.935	0.935	0.913
KENTUCKY	Lexington, KY MSA	-	-	-	-	-	0.946
	Louisville, KY-IN MSA	-	-	-	-	-	0.945
	REST OF KENTUCKY	0.921	0.921	0.921	0.921	0.921	0.903
LOUISIANA	New Orleans, LA MSA	-	-	-	0.977	0.977	0.977
	REST OF LOUISIANA	0.943	0.943	0.943	0.923	0.923	0.923
MAINE	Portland, ME NECMA	-	-	1.000	1.000	1.000	1.000
	REST OF MAINE	0.959	0.959	0.940	0.940	0.940	0.940
MARYLAND ††	STATEWIDE	1.016	1.016	1.016	1.016	1.016	1.016
MASSACHUSETTS	STATEWIDE	1.075	1.075	1.075	1.075	1.075	1.075
MICHIGAN	Detroit, MI PMSA	-	-	1.137	1.137	1.137	1.137
	REST OF MICHIGAN	1.083	1.083	1.020	1.020	1.020	1.020
MINNESOTA*	STATEWIDE	0.961	0.961	0.961	0.961	0.961	0.961
MISSISSIPPI	Memphis, TN-AR-MS MSA (De Soto County)	-	0.947	0.947	0.947	0.947	0.947
	Jackson, MS MSA	-	-	0.942	0.942	0.942	0.942
	REST OF MISSISSIPPI	0.899	0.899	0.886	0.886	0.886	0.886
MISSOURI	St. Louis, MO-IL MSA	-	-	-	-	0.984	0.984
	Kansas City, MO-KS MSA	-	-	-	-	0.983	0.983
	REST OF MISSOURI	0.954	0.954	0.954	0.954	0.908	0.908
MONTANA*	STATEWIDE	0.907	0.907	0.907	0.907	0.907	0.907
NEBRASKA*	STATEWIDE	0.894	0.894	0.894	0.894	0.894	0.894
NEVADA	STATEWIDE	1.010	1.010	1.010	1.010	1.010	1.010
NEW HAMPSHIRE*	STATEWIDE	1.003	1.003	1.003	1.003	1.003	1.003
NEW JERSEY	Bergen-Passaic, NJ PMSA	-	-	-	-	-	1.117
	REST OF NEW JERSEY	1.085	1.085	1.085	1.085	1.085	1.078
NEW MEXICO*	STATEWIDE	0.937	0.937	0.937	0.937	0.937	0.937

TABLE 3-5 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 2.  
 STATEWIDE FSAs EXCEPT FOR METROPOLITAN AREAS EXCEEDING THE STATEWIDE GAF BY MORE THAN A THRESHOLD \*

State	Fee Schedule Area	Threshold					
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%
NEW YORK	Nassau-Suffolk, NY PMSA	-	1.199	1.199	1.199	1.199	1.199
	New York, NY PMSA	-	1.176	1.176	1.176	1.176	1.176
	REST OF NEW YORK	1.115	0.980	0.980	0.980	0.980	0.980
NORTH CAROLINA*	STATEWIDE	0.924	0.924	0.924	0.924	0.924	0.924
NORTH DAKOTA*	STATEWIDE	0.898	0.898	0.898	0.898	0.898	0.898
OHIO*	STATEWIDE	0.973	0.973	0.973	0.973	0.973	0.973
OKLAHOMA*	STATEWIDE	0.910	0.910	0.910	0.910	0.910	0.910
OREGON	Portland-Vancouver, OR-WA PMSA	-	-	-	-	0.978	0.978
	REST OF OREGON	0.949	0.949	0.949	0.949	0.933	0.933
PENNSYLVANIA	Philadelphia, PA-NJ PMSA	-	1.066	1.066	1.066	1.066	1.066
	REST OF PENNSYLVANIA	0.991	0.951	0.951	0.951	0.951	0.951
PUERTO RICO	PUERTO RICO	0.794	0.794	0.794	0.794	0.794	0.794
RHODE ISLAND*	STATEWIDE	1.068	1.068	1.068	1.068	1.068	1.068
SOUTH CAROLINA*	STATEWIDE	0.915	0.915	0.915	0.915	0.915	0.915
SOUTH DAKOTA*	STATEWIDE	0.880	0.880	0.880	0.880	0.880	0.880
TENNESSEE*	STATEWIDE	0.923	0.923	0.923	0.923	0.923	0.923
TEXAS	Houston, TX PMSA	-	1.030	1.030	1.030	1.030	1.030
	Brazoria, TX PMSA	-	-	1.003	1.003	1.003	1.003
	Galveston-Texas City, TX PMSA	-	-	1.001	1.001	1.001	1.001
	Dallas, TX PMSA	-	-	-	0.998	0.998	0.998
	REST OF TEXAS	0.952	0.947	0.946	0.933	0.933	0.933
UTAH*	STATEWIDE	0.926	0.926	0.926	0.926	0.926	0.926
VERMONT*	STATEWIDE	0.955	0.955	0.955	0.955	0.955	0.955
VIRGIN ISLANDS	VIRGIN ISLANDS	0.974	0.974	0.974	0.974	0.974	0.974
VIRGINIA ††	Richmond-Petersburg, VA MSA	-	-	-	0.975	0.975	0.975
	Charlottesville, VA MSA	-	-	-	-	0.971	0.971
	REST OF VIRGINIA	0.940	0.940	0.940	0.929	0.926	0.926

TABLE 3-5 (continued)

GEOGRAPHIC ADJUSTMENT FACTORS (GAFs) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 2:  
STATEWIDE FSAs EXCEPT FOR METROPOLITAN AREAS EXCEEDING THE STATEWIDE GAF BY MORE THAN A THRESHOLD \*

State	Fee Schedule Area	Threshold					
		10.0%	5.0%	4.0%	3.5%	3.0%	2.5%
WASHINGTON	Seattle-Bellevue-Everett, WA PMSA	-	-	-	1.019	1.019	1.019
	REST OF WASHINGTON	0.982	0.982	0.982	0.959	0.959	0.959
WEST VIRGINIA †††	Charleston, WV MSA	-	-	-	-	0.949	0.949
	REST OF WEST VIRGINIA	0.918	0.918	0.918	0.918	0.911	0.911
WISCONSIN	Minneapolis-St. Paul, MN-WI MSA	-	1.025	1.025	1.025	1.025	1.025
	Madison, WI MSA	-	-	-	1.002	1.002	1.002
	Milwaukee-Waukesha, WI PMSA	-	-	-	-	0.998	0.998
	REST OF WISCONSIN	0.968	0.967	0.967	0.964	0.944	0.944
WYOMING*	STATEWIDE	0.925	0.925	0.925	0.925	0.925	0.925
TOTAL NUMBER OF FEE SCHEDULE AREAS		53	63	70	79	85	95
NUMBER OF STATES WITH MULTIPLE FSAs		0	7	11	16	19	23
NUMBER OF STATEWIDE** FSAs		53	46	42	37	34	30

\* FGAs that are statewide as of January 1, 1995 remain statewide areas

\*\* Includes Puerto Rico, the Virgin Islands, and Washington, D.C.

† Includes counties in Maryland, Virginia, and West Virginia. GAF for District of Columbia only is 1.122, for Maryland portion of PMSA is 1.068, for Virginia portion is 1.075, for West Virginia portion is 0.950.

†† Excludes Maryland counties in the Washington, D.C. PMSA. The statewide Maryland GAF including these counties is 1.039

††† Excludes Virginia counties in the Washington, D.C. PMSA. The statewide Virginia GAF including these counties is 0.966.

†††† Excludes West Virginia counties in the Washington, D.C. PMSA. The statewide West Virginia GAF including these counties is 0.920

NOTE: Metropolitan areas are Metropolitan Statistical Areas (MSAs), Primary Metropolitan Statistical Areas (PMSAs), and New England County Metropolitan Areas (NECMAs) defined by the U.S. Office of Management and Budget on June 30, 1993. GAFs are derived from GPCs rescaled for budget neutrality

SOURCE: Health Economics Research, Inc. file of county input prices.

Chicago") tend to "break out" in Option 1. Option 1, however, is more likely to establish a price gradient between urban core and suburban ring than Option 2, which tends to combine core and ring into a single area. One possibility to improve Option 2 is to examine a variant that considers intra-metropolitan price variation, for example separating high-price core urban counties from lower-price surrounding counties.

A second difference between Options 1 and 2 arises from the necessity of dealing with multi-state metropolitan areas in Option 2. (All payment localities, the building blocks of Option 1, are state-specific.) As discussed in Chapter 2, we split multi-state metropolitan areas into state-specific portions in constructing Option 2.<sup>6</sup> Portions of metropolitan areas in single-payment-locality states were constrained to remain with their statewide FSA. This way of treating multi-state metropolitan areas has consequences that in some cases do not appear desirable.

For example, De Soto county Mississippi becomes a FSA under Option 2 at the 5 percent threshold (see Figure 1). De Soto county is part of the Memphis Tennessee-Arkansas-Mississippi MSA. Because Tennessee and Arkansas are constrained to remain statewide FSAs, the Tennessee and Arkansas portions of the Memphis MSA do not become FSAs. De Soto county's becoming a FSA thus creates a GAF (i.e., payment) difference within the Memphis MSA. De Soto county would be paid at a higher rate (GAF = 0.947) than the core part of the Memphis MSA in (statewide) Tennessee (GAF = 0.923), or the MSA portion in (statewide) Arkansas (GAF = 0.887), or even the Jackson, Mississippi MSA (GAF=0.899 as part of "rest of Mississippi"). Also, a single county of 70,000 people becoming a FSA does not contribute to the goal of achieving administrative simplicity. Finally, measured input prices in De Soto county may be overstated because its work and practice expense GPCIs are calculated from average input price data for the entire Memphis MSA (see Section 2.2.2). De Soto's wages and rents are probably lower than the MSA average since it is a suburban county, not the populous core urban county of the MSA. If a county-specific GAF could be computed for De Soto county, it might be lower, and thus the county might not become a FSA.<sup>7</sup>

Two other, similar cases are St. Croix and Pierce counties in Wisconsin, and Mohave county in Arizona. The former two counties are part of the Minneapolis-St. Paul, Minnesota-Wisconsin MSA, and become a Wisconsin FSA at the 5 percent threshold (see Figure 2). Minnesota is a statewide locality; when St. Croix and Pierce become a FSA, a payment

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<sup>6</sup>The sole exception is Washington, D.C., which was not divided into Maryland and Virginia portions, but was treated as a state.

<sup>7</sup>On the other hand, De Soto's malpractice GPCI, computed from state-specific insurance premiums, is 0.710 versus 0.512 in Tennessee and 0.417 in Arkansas. This is a legitimate input price difference that, given a malpractice share of 4.8 percent, raises De Soto's GAF by about 1 percentage point vis-à-vis the Tennessee and Arkansas portions of the Memphis MSA.



Figure 1

OPTION 2, 5% THRESHOLD, MEMPHIS METROPOLITAN AREA

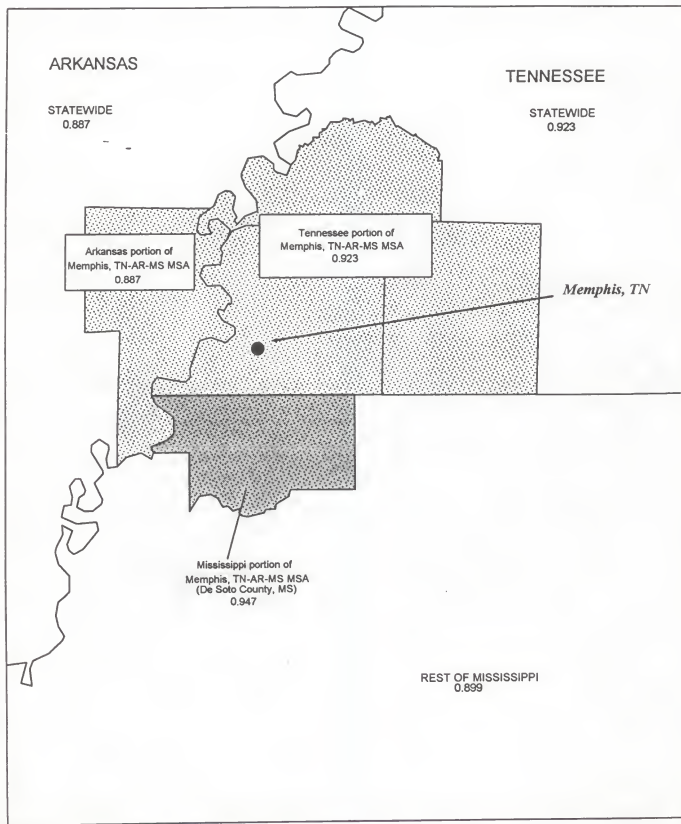
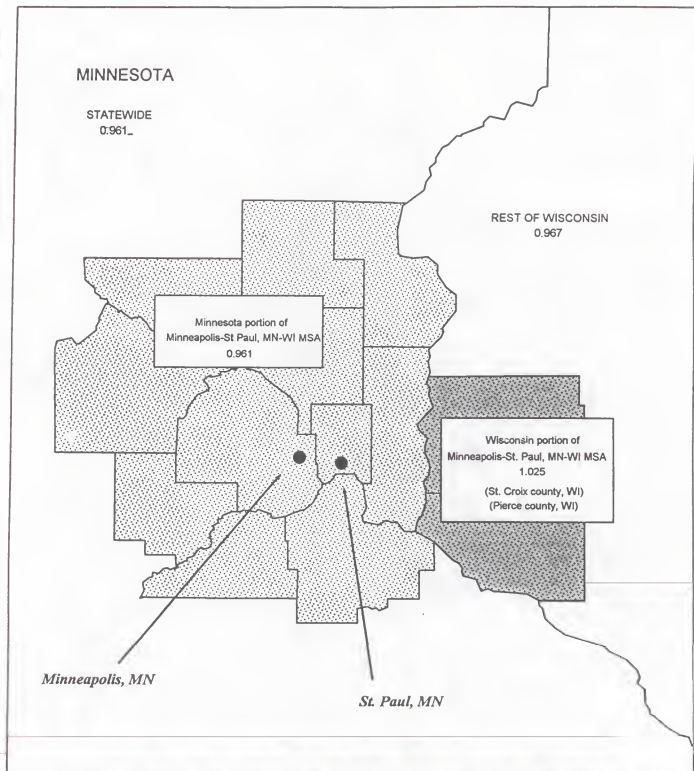


Figure 2

OPTION 2, 5% THRESHOLD, MINNEAPOLIS-ST. PAUL METROPOLITAN AREA



difference is created within the Minneapolis-St. Paul MSA. The Wisconsin portion of the MSA has a GAF of 1.025, compared with the statewide Minnesota GAF of 0.961. But the most densely populated, urban part of the MSA (the cities of Minneapolis and St. Paul) is in Minnesota. St. Croix and Pierce counties have populations of 50,000 or less, and are unlikely to be higher-price areas. Their work and practice expense GPCIs are overstated because they are based on MSA-wide input prices, including the much more urbanized counties in Minnesota.<sup>8</sup> Mohave county Arizona, part of the Las Vegas Nevada-Arizona MSA, becomes a FSA at the 3.5 percent threshold (see Figure 3). Its GAF is 1.030 versus the statewide GAF of 1.010 for Nevada, including the city of Las Vegas. The same factors are at work here in creating a higher GAF in a suburban county than the urban core county, including MSA-wide work and practice expense GPCIs and a higher malpractice GPCI in Arizona.<sup>9</sup>

A different set of circumstances creates a higher suburban GAF in the Philadelphia, Pennsylvania-New Jersey PMSA. The Pennsylvania (core urban) portion of the PMSA, with a GAF of 1.066, becomes a FSA at the 5 percent threshold. However, the suburban New Jersey portion of the PMSA remains part of the New Jersey statewide FSA, with a higher GAF of 1.085. The New Jersey portion of the PMSA does not become a FSA because its GAF is only 1.038 (see Table A-2), which is less than the state average GAF of New Jersey, a high-price state. A similar situation occurs in the St. Louis Missouri-Illinois MSA. The Missouri part of the MSA becomes a FSA at the 3 percent threshold with a GAF of 0.984, but the Illinois portion remains part of the Illinois "rest of state" FSA with a GAF of 0.929. The Illinois portion of the St. Louis MSA never becomes a FSA because the Illinois statewide average GAF to which it is compared includes the high-price Chicago area.

Finally, we would like to mention the results for Option 2A, which extends the logic of Option 2 to all states, including states that currently have a single, statewide payment locality. Results for Option 2A are presented in Appendix Table A-3, but no maps were constructed for this option. Extending Option 2 to all states increases the number of FSAs by a relatively small amount: 110 versus 95 areas at the 2.5 percent threshold; 94 versus 85 areas at the 3 percent threshold; and 85 versus 79 areas at the 3.5 percent threshold, for example. The number of states with multiple FSAs rises more substantially under Option 2A, from 23 to 34 at the 2.5 percent threshold, for example. This indicates that many of the additional FSAs are the single

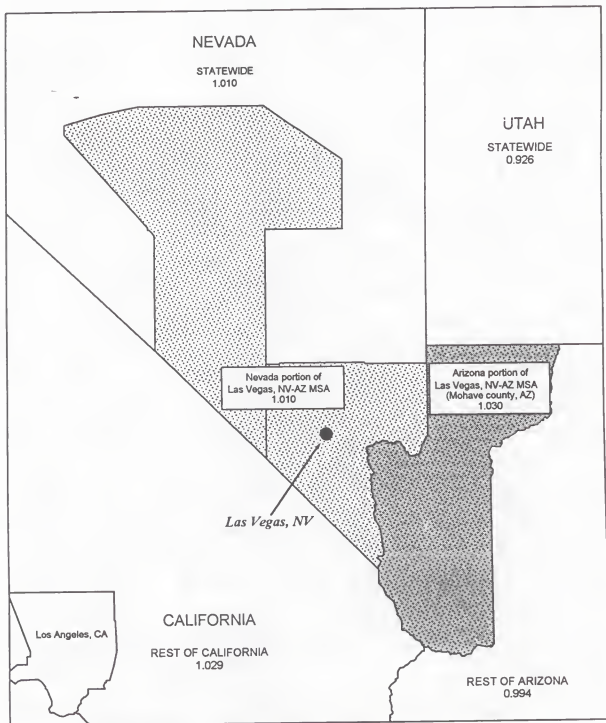
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<sup>8</sup>Again, St. Croix and Pierce counties do have a legitimately higher malpractice GPCI of 1.134 versus 0.581 in Minnesota. Ceteris paribus, the higher malpractice GPCI raises the GAF of the two Wisconsin counties by about 2.6 percentage points versus the Minnesota portion of the MSA.

<sup>9</sup>Mohave county's malpractice GPCI is 1.291 versus 0.867 in Clark county, Nevada (Las Vegas), creating a GAF differential of about 2 percentage points.

Figure 3

OPTION 2, 3.5% THRESHOLD, LAS VEGAS METROPOLITAN AREA



highest-priced (usually the largest) metropolitan areas in currently single-locality states. An example is Minneapolis-St. Paul, Minnesota. Many currently single-locality states remain statewide FSAs under Option 2A at the 2.5 percent threshold, including Alaska, Delaware, Hawaii, Montana, New Hampshire, and North Dakota.

The attraction of extending Option 2 to all states is that then a consistent methodology is applied in determining FSAs across the entire nation. Under Option 2, states that currently have a single payment locality are treated differently from states that are currently multi-locality. Another attraction of Option 2A is that it ameliorates some of the problems with multi-state metropolitan areas. For example, under Option 2A, the Minnesota portion of the Minneapolis-St. Paul MSA becomes a FSA at the 3.5 percent threshold, with a GAF of 0.998. This GAF is still less than the Wisconsin portion GAF of 1.025 because of the higher Wisconsin malpractice GPCI, but it reduces the intra-MSA difference to 0.998/1.025 from 0.961/1.025 under Option 2. Not all multi-state metropolitan area issues are resolved, however. The Mohave county, Arizona/Las Vegas, Nevada GAF difference is unchanged, and differences within the Memphis Tennessee-Arkansas-Mississippi MSA are lessened, but not eliminated (see Table A-3 for details).

### 3.4 Option 3

Option 3 is based on metropolitan area population size by state. Table 3-6 presents a summary of MSA population size by currently multi-locality state (states almost always have all the MSA population size categories below their highest category). Eight states and Washington, D.C. contain an MSA with greater than 3 million people; 16 states' largest MSA is between 1 and 3 million; 4 states' largest MSA is between 250,000 and 1 million; and Maine's largest MSA has less than 250,000 people.

GAFs by metropolitan area population category and state under Option 3 are shown in Table 3-7.<sup>10</sup> Appendix Table A-4 groups each metropolitan area by state and population category, and shows 1996 GAFs under Options 3 and 4.<sup>11</sup> In addition, Table A-4 shows each metropolitan area's actual GAF, including both state-specific and metropolitan-wide GAFs for multi-state metropolitan areas.<sup>12</sup> Maps of Option 3 for the nation and each multiple FSA state are included in Volume III of this report.

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<sup>10</sup>See Table 2-1 or the footnotes to Table 3-7 for definition of the population categories.

<sup>11</sup>Recall that under Option 3, each state's portion of a multi-state metropolitan area is assigned to a population category in its state based on the population of the entire metropolitan area in all states.

TABLE 3-6

DISTRIBUTION OF STATES BY HIGHEST METROPOLITAN AREA POPULATION  
CATEGORY OR STATEWIDE FEE SCHEDULE AREA UNDER OPTION 3

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	
<u>Greater Than</u> <u>3 Million</u>	<u>Between 1</u> <u>and 3 Million</u>	<u>Between 250,000</u> <u>and 1 Million</u>	<u>Less than</u> <u>250,000</u>	<u>Statewide*</u>
California	Arizona	Alabama	Maine	Alaska
Illinois	Connecticut	Idaho		Arkansas
Massachusetts	Florida	Nevada		Colorado
Michigan	Georgia	West Virginia		Delaware
New Jersey	Indiana			Hawaii/Guam
New York	Kansas			Iowa
Pennsylvania	Kentucky			Minnesota
Texas	Louisiana			Montana
Washington, D.C.	Maryland			Nebraska
	Mississippi			New Hampshire
	Missouri			New Mexico
	New Jersey			North Carolina
	Oregon			North Dakota
	Virginia			Ohio
	Washington			Oklahoma
	Wisconsin			Puerto Rico
				Rhode Island
				South Carolina
				South Dakota
				Tennessee
				Utah
				Vermont
				Virgin Islands
				Wyoming

\* These states have a single locality as of January 1, 1995 and thus are constrained to remain statewide under Option 3.

NOTE: Category 5 (not shown) is the state nonmetropolitan area.

SOURCE: Health Economics Research

TABLE 3-7

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 3:  
 FSAs BASED ON METROPOLITAN AREA POPULATION CATEGORIES BY STATE\*

<u>State</u>	<u>Metropolitan Area Population Category**</u>	<u>GAF</u>
ALABAMA	3	0.948
	4	0.920
	5	0.895
ALASKA*	STATEWIDE	1.128
ARIZONA	2	1.002
	3	0.987
	4	0.976
	5	0.958
ARKANSAS*	STATEWIDE	0.887
CALIFORNIA	1	1.103
	2	1.069
	3	1.015
	4	0.987
	5	0.956
COLORADO*	STATEWIDE	0.966
CONNECTICUT	2	1.112
	3	1.068
	5	1.052
DELAWARE*	STATEWIDE	1.015
WASHINGTON, DC PMSA †	1	1.090
FLORIDA	2	1.053
	3	1.004
	4	0.968
	5	0.955
GEORGIA	2	1.010
	3	0.951
	4	0.940
	5	0.912
HAWAII/GUAM*	STATEWIDE	1.086
IDAHO	3	0.928
	5	0.898

TABLE 3-7 (continued)

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 3:  
FSAs BASED ON METROPOLITAN AREA POPULATION CATEGORIES BY STATE\*

<u>State</u>	<u>Metropolitan Area Population Category**</u>	<u>GAF</u>
ILLINOIS	1	1.061
	2	0.986
	3	0.937
	4	0.948
	5	0.899
INDIANA	2	0.950
	3	0.931
	4	0.913
	5	0.899
IOWA*	STATEWIDE	0.912
KANSAS	2	0.982
	3	0.970
	4	0.962
	5	0.896
KENTUCKY	2	0.940
	3	0.944
	4	0.906
	5	0.893
LOUISIANA	2	0.977
	3	0.934
	4	0.923
	5	0.893
MAINE	4	0.973
	5	0.938
MARYLAND ††	2	1.032
	3	0.998
	4	0.937
	5	0.960
MASSACHUSETTS	1	1.084
	3	1.019
	4	1.040
	5	1.012



TABLE 3-7 (continued)

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 3:  
FSAs BASED ON METROPOLITAN AREA POPULATION CATEGORIES BY STATE\*

<u>State</u>	<u>Metropolitan Area Population Category**</u>	<u>GAF</u>
MICHIGAN	1	1.137
	3	1.036
	4	1.008
	5	0.975
MINNESOTA*	STATEWIDE	0.961
MISSISSIPPI	2	0.947
	3	0.933
	5	0.881
MISSOURI	2	0.984
	3	0.921
	4	0.924
	5	0.891
MONTANA*	STATEWIDE	0.907
NEBRASKA*	STATEWIDE	0.894
NEVADA	3	1.012
	5	0.983
NEW HAMPSHIRE*	STATEWIDE	1.003
NEW JERSEY	1	1.038
	2	1.111
	3	1.066
	4	1.006
NEW MEXICO*	STATEWIDE	0.937
NEW YORK	1	1.176
	2	1.116
	3	0.996
	4	0.945
	5	0.952
NORTH CAROLINA*	STATEWIDE	0.924
NORTH DAKOTA*	STATEWIDE	0.898

TABLE 3-7 (continued)

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 3:  
FSAs BASED ON METROPOLITAN AREA POPULATION CATEGORIES BY STATE\*

<u>State</u>	<u>Metropolitan Area Population Category**</u>	<u>GAF</u>
OHIO*	STATEWIDE	0.973
OKLAHOMA*	STATEWIDE	0.910
OREGON	2	0.978
	3	0.943
	4	0.959
	5	0.919
PENNSYLVANIA	1	1.066
	2	0.963
	3	0.960
	4	0.919
	5	0.918
PUERTO RICO	PUERTO RICO	0.794
RHODE ISLAND*	STATEWIDE	1.068
SOUTH CAROLINA*	STATEWIDE	0.915
SOUTH DAKOTA*	STATEWIDE	0.880
TENNESSEE*	STATEWIDE	0.923
TEXAS	1	1.030
	2	0.978
	3	0.947
	4	0.926
	5	0.895
UTAH*	STATEWIDE	0.926
VERMONT*	STATEWIDE	0.955
VIRGIN ISLANDS	VIRGIN ISLANDS	0.974
VIRGINIA †††	2	0.951
	3	0.973
	4	0.933
	5	0.900

TABLE 3-7 (continued)

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 3:  
FSAs BASED ON METROPOLITAN AREA POPULATION CATEGORIES BY STATE\*

<u>State</u>	<u>Metropolitan Area Population Category**</u>	<u>GAF</u>
WASHINGTON	2	1.016
	3	0.966
	4	0.970
	5	0.931
WEST VIRGINIA †††	3	0.942
	4	0.915
	5	0.903
WISCONSIN	2	0.998
	3	0.983
	4	0.955
	5	0.927
WYOMING*	STATEWIDE	0.925

\* FSAs that are statewide as of January 1, 1995 remain statewide areas.

\*\* Metropolitan Population Categories:

- 1 - Metropolitan area population over 3 million
- 2 - Metropolitan area population between 1 million and 3 million
- 3 - Metropolitan area population between 250,000 and 1 million
- 4 - Metropolitan area population under 250,000
- 5 - Nonmetropolitan area

Multi-state metropolitan areas are assigned to population categories based on the population of the entire metropolitan area, but only the GAF of a state's portion of the metropolitan area is included in a state's GAF averages.

† Includes counties in Maryland, Virginia, and West Virginia.

†† Excludes Maryland counties in the Washington, D.C. PMSA.

††† Excludes Virginia counties in the Washington, D.C. PMSA.

†††† Excludes West Virginia counties in the Washington, D.C. PMSA.

NOTE: Population is 1990 Census population. GAFs are derived from GPCIs rescaled for budget neutrality. Metropolitan areas are Metropolitan Statistical Areas, Primary Metropolitan Statistical Areas, and New England County Metropolitan Areas, as defined by the Office of Management and Budget as of June 30, 1993.

SOURCE: Health Economics Research, Inc. file of county input prices

Option 3 creates a larger number of FSAs than any other option, 132, and a larger number of multiple FSA states than Options 1 and 2<sup>13</sup>. It also is considerably more complex geographically than Options 1 and 2, as is apparent by consulting the maps in Volume III of this report. Each currently multi-locality state is divided into up to five FSAs, which are not necessarily contiguous.

The advantage of Option 3 is that by using more metropolitan areas in its FSAs, it can potentially achieve greater accuracy in tracking input prices than, say, Option 2. Greater accuracy will be achieved to the extent that input prices are highly correlated with metropolitan area population by state. Also, since Option 3 uses state non-metropolitan areas as FSAs, it tends to have fewer large differences across state boundaries in rural areas than Options 1 or 2. For example, unlike Option 2, Maryland is divided into multiple FSAs, including the Baltimore, Maryland PMSA, non-metropolitan Maryland, and the Cumberland, Maryland MSA. This improves tracking of input prices in Maryland, and reduces differences across FSA boundaries among western Maryland, southern Pennsylvania, and northeastern West Virginia as compared to Option 2 (see maps in Volume III). The Boston-Worcester-Lowell Massachusetts NECMA becomes a FSA under Option 3 (unlike Option 2), which appears to improve tracking of input prices in Massachusetts.

The principle disadvantage of Option 3 is that it does not take account of location in creating FSAs. Within a state, a metropolitan area's costliness is assumed to depend only on its population. This is not always an accurate assumption. For example, a small metropolitan area that is a component of a major metropolitan region (i.e., a PMSA) may have much higher input prices than a small freestanding metropolitan area surrounding by non-metropolitan counties (i.e., a MSA). Grouping these two types of metropolitan areas together can lead to inaccurate GAFs and inappropriate differences at FSA boundaries.

For example, Houston is the only Texas metropolitan area in the highest population category of 3 million or more, and has a GAF under Option 3 of 1.030. The contiguous Galveston PMSA is in the smallest population class of under 250,000. Its "true"<sup>14</sup> GAF is 1.001, but under Option 3 it is averaged with other small Texas metropolitan areas, and is assigned a GAF of 0.926 (see Table A-4). Option 3 thus underpays Galveston, and creates a much larger

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<sup>12</sup>For multi-state metropolitan areas, the GAF of the in-state portion of the area was used in computing average GAFs by population category by state in Option 3, not the metropolitan area-wide GAF.

<sup>13</sup>If states with small intra-state input price variation became statewide FSAs as recommended by the PPRC (PPRC, 1992), the number of FSAs and multi-locality states created by Option 3 would be reduced.

<sup>14</sup>By "true" GAF, we mean the GAF computed solely from input prices in counties comprising the metropolitan area.

GAF difference at the Houston-Galveston boundary than is warranted by the actual difference in input prices.

Other examples of inappropriate grouping of metropolitan areas can be cited. The Nassau-Suffolk PMSA is grouped with Buffalo and Rochester New York MSAs despite the fact that Nassau-Suffolk is much more expensive, with a true GAF of 1.199, compared to 0.969 for Buffalo and 0.995 for Rochester. The result is an average GAF of 1.116 for the New York 1 to 3 million population category that underpays Long Island and overpays Buffalo and Rochester. Florida is another state with apparently inappropriate groupings. Expensive Miami and Fort Lauderdale (with true GAFs of 1.116 and 1.100) are grouped with lower-price Orlando and Tampa-St. Petersburg (with true GAFs of 1.008 and 0.992). High-price West Palm Beach (true GAF = 1.063) is in the same group with less expensive Pensacola and Lakeland-Winter Haven (true GAFs of 0.951 and 0.958, respectively). This grouping creates an Option 3 GAF difference across the Pensacola-Mobile, Alabama boundary of 1.004/0.948 versus an actual difference in input prices of 0.951/0.924. In California, San Francisco (true GAF = 1.141) is grouped with San Diego (true GAF = 1.025). Other examples can be found by consulting Table A-4.

Multi-state metropolitan areas can cause problems for Option 3, as they do for Option 2. For example, De Soto county in Mississippi becomes its own FSA in Option 3, as it does in Option 2. Boundary differences in some other multi-state metropolitan areas--St. Croix and Pierce counties, Wisconsin versus Minneapolis-St. Paul, Minnesota, and Mohave county Arizona versus Las Vegas, Nevada for example--appear to be ameliorated under Option 3 (see maps in Volume III).

### 3.5 Option 4

GAFs by nationwide metropolitan area population category under Option 4 are shown in Table 3-8. Appendix Table A-4 groups each metropolitan area by state and population category, and shows 1996 GAFs under Options 3 and 4. In addition, Table A-4 shows each metropolitan area's actual GAF, including both state-specific and metropolitan-wide GAFs for multi-state metropolitan areas. Maps of Option 4 for the nation and each of the nine Census Divisions are included in Volume III of this report.

Option 4 creates by far the smallest number of FSAs of any option, four nationwide metropolitan area categories, and a fifth category for non-metropolitan areas. Paradoxically, Option 4 is perhaps the most complex option geographically, because all states are included in the population categories, not excepting states that currently have only a single statewide locality. Each state is divided into up to five different FSAs, which are not necessarily contiguous. There is approximately a 20 percentage point range in the GAF among the FSAs,

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TABLE 3-8

1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) BY FEE SCHEDULE AREA (FSA) UNDER OPTION 4:  
NATIONWIDE AREAS BASED ON METROPOLITAN AREA POPULATION

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<u>Fee Schedule Area</u>	<u>GAF</u>
Metropolitan area population:	
> 3 million	1.102
1-3 million	1.024
.25-1 million	0.975
< .25 million	0.937
Nonmetropolitan	0.908

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NOTE: Population is 1990 Census population. GAFs are derived from GPCIs rescaled for budget neutrality. Metropolitan areas are Metropolitan Statistical Areas, Primary Metropolitan Statistical Areas, and New England County Metropolitan Areas, as defined by the Office of Management and Budget as of June 30, 1993. Population categories and FSAs are calculated using all 50 states as well as Puerto Rico, the Virgin Islands and Guam.

SOURCE: Health Economics Research, Inc. file of county input prices.

from about 0.9 to 1.1 (Table 3-8). The largest difference among "adjacent" categories is between the largest metropolitan areas (population exceeding 3 million), which have an average GAF of 1.102, and large metropolitan areas (population 1 to 3 million) with a GAF of 1.024.

The attraction of Option 4 is its simplicity in terms of number of FSAs. To the extent that input prices are highly correlated with metropolitan area population, it can achieve a very large reduction in number of FSAs at a perhaps acceptable cost in lost accuracy of reflecting input price variation. It may also appeal to a certain sense of equity. For example, to the extent that physicians in Los Angeles and New York think that they are peers, they may find it appropriate that their Medicare fees are the same. Another attraction of Option 4 is that since all non-metropolitan areas have the same GAF, payment differences among rural areas (e.g., at state boundaries) are eliminated.

However, these advantages of Option 4 appear to come at a high price in terms of lost accuracy in tracking input prices and inappropriate boundary differences. Consider the following differences between a metropolitan area's Option 4 GAF and its "true" GAF.<sup>15</sup> These large metropolitan areas appear to be substantially underpaid under Option 4 (in parentheses, Option 4 GAF/true GAF are given): San Francisco (1.024/1.141); New York City (1.102/1.176); Nassau-Suffolk, New York (1.024/1.199); and Miami (1.024/1.116). Conversely, the following large cities appear to be overpaid under Option 4: Houston (1.102/1.030); Chicago (1.102/1.061); and Philadelphia (1.102/1.066). In addition to these inaccuracies in tracking input prices, Option 4 creates some severe boundary problems. For example, the Los Angeles-Ventura California GAF difference under Option 4 is 1.102 versus 0.975, compared with an actual difference in input prices of only 1.103 versus 1.079. The Houston-Galveston, Texas difference under Option 4 is 1.102 versus 0.937, a nearly 20 percentage point difference, versus a true difference (and a difference under Options 1 and 2) of 1.030 versus 1.001. Boston, Massachusetts's GAF under Option 4 is 1.102 versus 0.937 for Cape Cod (Barnstable-Yarmouth), while the actual difference in input prices is 1.084 versus 1.063. Other examples could be cited. (See Table A-4 and the maps in Volume III.)

In short, regional, state-specific, and metropolitan-area-specific factors, which Option 4 ignores, appear to be important influences on input prices. Nationwide averages of input prices by metropolitan area population size simply do not capture these factors. A particularly important omitted factor is location in a large metropolitan complex such as the New York City area, the Los Angeles area, the San Francisco Bay area, or the Houston, Texas area. Even a small PMSA that is a part of one of these large urban complexes may have high input prices. It

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<sup>15</sup>The "true" GAF is computed solely from input prices in counties comprising the metropolitan area. The Option 4 GAF and the true GAF are shown for each metropolitan area in Appendix Table A-4.

is inappropriate to average the GAFs of these small metropolitan areas with the GAFs of more isolated small cities, which tend to be considerably less expensive. It might be possible to refine Option 4 by incorporating additional factors, such as a PMSA versus MSA distinction, and region.<sup>16</sup> But then Option 4 would lose its simplicity, which is its main attraction.

### 3.6 Evaluating Fee Schedule Area Alternatives

Option 4, we believe, is the least promising approach to constructing FSAs. In its current form, we believe it is unacceptably inaccurate in tracking input price differences, and creates too many large and inappropriate GAF differences across FSA boundaries. It is also the most complex option geographically, although it does have the fewest number of FSAs. Option 4 could be refined by introducing PMSA/MSA and/or regional distinctions, but then it would lose its simplicity, which is its most appealing feature.

Option 3, we feel, is also relatively unpromising. It creates the largest number of FSAs of any option and is more geographically complex than either Option 1 or Option 2<sup>17</sup>. Option 3 suffers from inadequate tracking of input price variations and inappropriate differences across boundaries, which are caused in both Options 3 and 4 by grouping metropolitan areas by population class. As compared to Option 4, these problems are lessened by the use of state-specific population classes in Option 3, but we feel that these drawbacks are still likely to be unacceptable. Option 3 could be refined in a similar manner to Option 4, but at the cost of considerably increased complexity.

Option 2 is relatively more promising than Options 3 and 4, but we believe that it is less attractive than Option 1. Options 2 and 1 produce similar FSAs. The primary reason we prefer Option 1 is that it utilizes the existing Medicare payment localities as building blocks, and thus implementing it would cause less disruption. In addition, the urban payment localities used in Option 1 tend to be smaller and more focused on high-cost core urban counties than the larger metropolitan area definitions used in Option 2. Finally, appropriate treatment of multi-state metropolitan areas in Option 2 is difficult.

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<sup>16</sup> Average GAFs could be computed by population category separately for PMSAs and MSAs, increasing the number of FSAs to 9 (4 MSA population categories, 4 PMSA population categories, and a non-metropolitan category). A further refinement would be to cross-classify these categories by the 4 Census regions.

<sup>17</sup> If states with small intra-state input price variation became statewide FSAs as recommended by the PPRC (PPRC, 1992), the number of FSAs and multi-locality states created by Option 3 would be reduced.



We considered two variants of Option 1, basic and iterative. We prefer the iterative variant of Option 1. The basic variant of Option 1 has two shortcomings. First, some mid-sized metropolitan areas in large states such as California and Texas do not remain distinct FSAs despite their considerably higher input prices than in the rural and small city areas of their states. Second, some large metropolitan areas in small states, such as Baltimore, Maryland, do not remain distinct FSAs. The iterative variant of Option 1 overcomes both of these shortcomings by comparing input prices of a payment locality to the average costliness of less-expensive localities, rather than to the entire state average. This method ensures homogeneity of input prices in statewide or residual state FSAs. For a fixed total number of FSAs, the iterative variant of Option 1 creates more FSAs than the basic variant in large states, but fewer states have multiple FSAs.

The iterative variant of Option 1—Option 1i—is our preferred method for defining FSAs. Multiple thresholds are available with Option 1i. Choosing a preferred threshold is a policy judgment about the tradeoff between more accurate tracking of input price differences versus fewer FSAs, more statewide FSAs, greater simplicity, and smaller average payment differences among counties. Among the five Option 1i thresholds ranging from 6 percent to 3 percent in Table 3-4, we have chosen two preferred thresholds. The 5 percent threshold is our "basic" FSA option, and the 3.5 percent threshold is our "extended" FSA option.

Our basic option for reconfiguring the FSAs defines 87 FSAs, compared to 210 currently. Only 14 states have multiple FSAs, compared to 28 currently. Greater consolidation of FSAs than this is possible (compare the 6 percent threshold in Table 3-4), but we believe that retaining the FSAs in the basic option (e.g., Marin/Napa/Solano, California; New Orleans, Louisiana; Southern Maine; Northern New Jersey; Portland, Oregon; Fort Worth, Texas) is important to ensure accurate tracking of input prices.

Our extended option achieves a more accurate tracking of input prices at the expense of a larger number of FSAs. The extended option has 105 FSAs, half as many as currently exist. Twenty two states have multiple FSAs compared to 28 currently. One noteworthy difference between the basic and extended options is that the Kansas City, Missouri, St. Louis, Missouri, and Kansas City, Kansas payment localities remain distinct FSAs in the extended option.

Having defined our preferred FSA options, we proceed to study the impact that implementing them would have on physicians and Medicare beneficiaries.

## 4.0 IMPACT ANALYSIS

We concluded in the previous chapter (Section 3.6) that Option 1i, 5 percent and 3.5 percent thresholds, are our two preferred methods for defining revised Fee Schedule Areas. Tables 4-1 and 4-2 show the largest changes in the Medicare Geographic Adjustment Factor (GAF) arising from replacing the current payment localities with the FSAs defined by Option 1i, 5 percent and 3.5 percent thresholds, respectively. The vast majority of localities would see no change or a small change (i.e., less than 3 percent) from revised FSAs. Redistribution is less under the 3.5 percent threshold than under the 5 percent threshold. The areas that gain the most are rural or small city localities. The largest losers tend to contain mid-sized metropolitan areas. Most large metropolitan areas experience no change. The largest gains are 5 to 6 percent and the largest losses are 3 to 4 percent.

Although Tables 4-1 and 4-2 are useful, they do not reveal how Medicare payments would change by urbanicity, physician specialty, and beneficiary characteristics should a change in the FSAs be made. The remainder of the chapter studies how the changes shown in Tables 4-1 and 4-2 affect areas by degree of urbanicity, physician specialties, and beneficiaries of different demographic characteristics.

### 4.1 Introduction

Because physician payments overall would not be increased with a change in the FSAs, given the requirement of budget neutrality, for every winner in a revised payment system there must be an equal loser. In this chapter, we estimate the redistributive effects of the two preferred payment locality alternatives, Option 1i, with 5% and 3.5% thresholds. We simulate the impacts of reconfiguring payment localities on physicians using two stratifications. First, we examine the effects on total Medicare payments by level of urbanicity of the location of the physician's practice. Second, we examine the effects on total Medicare payments by physician specialty. In addition, we examine the characteristics of Medicare beneficiaries living in winning and losing areas to determine whether there is a differential impact of reconfiguration by age, sex, race, or income level of beneficiaries.

### 4.2 Data and Methods

The basic payment methodology for assessing the impact of proposed locality changes is to calculate the total payments to physicians under the existing localities and for each of the preferred alternatives. That is, we multiply each of the three RVUs—work, practice expense,

TABLE 4-1

DIFFERENCE BETWEEN 1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) AND OPTION 1i, 5% THRESHOLD GAF, BY MEDICARE PAYMENT LOCALITY, IN DESCENDING ORDER OF DIFFERENCE

Carrier Code	Locality Code	Payment Locality	Option 1i GAF	1996 GAF	Percentage Point Difference	Percent Difference
<b><u>LARGEST GAINERS</u></b>						
11260	02	SM E. CITIES, MO	0.954	0.897	0.057	6.4 %
11260	03	REST OF MO	0.954	0.899	0.055	6.1
00542	02	NE RURAL, CA	1.007	0.952	0.055	5.8
00542	13	KINGS/TULARE, CA	1.007	0.955	0.052	5.5
00951	13	CENTRAL WI	0.968	0.924	0.044	4.8
00951	14	SOUTHWEST WI	0.968	0.924	0.044	4.8
00951	12	NORTHWEST WI	0.968	0.925	0.043	4.7
00621	13	SOUTHEAST IL	0.924	0.882	0.042	4.8
00740	06	RURAL NW COUNTIES, MO	0.954	0.913	0.041	4.5
00621	07	QUINCY, IL	0.924	0.886	0.038	4.3
00951	36	WAUSAU (N CNTRL), WI	0.968	0.932	0.036	3.9
00542	11	FRESNO/MADERA, CA	1.007	0.971	0.036	3.7
00621	14	SOUTHERN IL	0.924	0.889	0.035	3.9
00740	71	ST JOSEPH, MO	0.954	0.920	0.034	3.7
10230	04	EASTERN CT	1.106	1.072	0.034	3.2
10490	04	REST OF VA	0.944	0.912	0.032	3.5
00900	04	WESTERN TX	0.924	0.893	0.031	3.5
01030	07	PRESCOTT, AZ	0.995	0.964	0.031	3.2
00510	06	REST OF AL	0.932	0.902	0.030	3.3
00542	10	MERCED/SURR.CNTYS, CA	1.007	0.977	0.030	3.1
01290	03	ELKO & ELY (CITIES), NV	1.010	0.980	0.030	3.1
00621	01	NORTHWEST, IL	0.924	0.896	0.028	3.1
00700	02	MASS SUBURBS/RURAL CITIES	1.075	1.048	0.027	2.6
00660	03	REST OF KENTUCKY	0.921	0.895	0.026	2.9
00951	19	LA CROSSE (W CNTRL), WI	0.968	0.943	0.025	2.7
10490	03	SM TOWN/INDUSTRIAL VA	0.944	0.920	0.024	2.6
00900	30	SAN ANGELO, TX	0.924	0.900	0.024	2.7
00630	03	REST OF IN	0.925	0.901	0.024	2.7
00951	54	JANESVILLE (S CNTRL), WI	0.968	0.946	0.022	2.3
00951	60	OSHKOSH (E CNTRL), WI	0.968	0.946	0.022	2.3
01030	05	FLAGSTAFF, AZ	0.995	0.973	0.022	2.3
16510	20	SOUTHERN VALLEY, WV	0.919	0.898	0.021	2.3
00900	19	MC ALLEN, TX	0.924	0.904	0.020	2.2
00900	10	BROWNSVILLE, TX	0.924	0.905	0.019	2.1
01030	08	YUMA, AZ	0.995	0.976	0.019	2.0
00900	34	WICHITA FALLS, TX	0.924	0.906	0.018	2.0
01040	04	REST OF GA	0.935	0.917	0.018	2.0
00900	33	LAREDO, TX	0.924	0.907	0.017	1.9
00951	40	GREEN BAY (NORTHEAST), WI	0.968	0.951	0.017	1.8
10250	01	REST OF MISSISSIPPI	0.899	0.883	0.016	1.8

TABLE 4-1 (continued)

DIFFERENCE BETWEEN 1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) AND OPTION 1i, 5% THRESHOLD GAF, BY MEDICARE PAYMENT LOCALITY, IN DESCENDING ORDER OF DIFFERENCE

Carrier Code	Locality Code	Payment Locality	Option 1i GAF	1996 GAF	Percentage Point Difference	Percent Difference
<b><u>LARGEST LOSERS</u></b>						
00080	10	ROCHESTER/SURR. CNTYS, NY	0.973	0.995	-0.022	-2.2
00090	01	ODESSA, TX	0.924	0.946	-0.022	-2.3
00090	02	MIDLAND, TX	0.924	0.946	-0.022	-2.3
01651	01	CHARLESTON, WV	0.919	0.941	-0.022	-2.3
00051	00	BIRMINGHAM, AL	0.932	0.957	-0.025	-2.6
00090	00	SAN ANTONIO, TX	0.924	0.949	-0.025	-2.6
00066	00	LEXINGTON & LOUISVILLE, KY	0.921	0.946	-0.025	-2.6
00074	00	N K.C. (CLAY/PLATTE), MO	0.954	0.983	-0.029	-3.0
00074	00	K.C. (JACKSON CNTY), MO	0.954	0.983	-0.029	-3.0
00095	10	MILWAUKEE, WI	0.968	0.999	-0.031	-3.1
00062	10	ROCKFORD, IL	0.924	0.955	-0.031	-3.3
00090	01	DENTON, TX	0.924	0.955	-0.031	-3.3
00095	11	MADISON (DANE CNTY), WI	0.968	1.002	-0.034	-3.4
00205	01	SANTA BARBARA, CA	1.007	1.042	-0.035	-3.4
01023	00	SW CT	1.106	1.143	-0.037	-3.2
00054	21	MONTEREY/SANTA CRUZ, CA	1.007	1.044	-0.037	-3.5
00074	00	SUBURBAN KANSAS CITY, KANSAS	0.945	0.982	-0.037	-3.8
00074	00	KANSAS CITY, KANSAS	0.945	0.982	-0.037	-3.8
00062	10	SPRINGFIELD, IL	0.924	0.961	-0.037	-3.9

SOURCE: Health Economics Research, Inc.

TABLE 4-2

DIFFERENCE BETWEEN 1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) AND OPTION 1i, 3.5% THRESHOLD GAF, BY MEDICARE PAYMENT LOCALITY, IN DESCENDING ORDER OF DIFFERENCE

Carrier Code	Locality Code	Payment Locality	Option 1i GAF	1996 GAF	Percentage Point Difference	Percent Difference
<b><u>LARGEST GAINERS</u></b>						
542	02	NE RURAL, CA	1.003	0.952	0.051	5.4 %
542	13	KINGS/TULARE, CA	1.003	0.955	0.048	5.0
542	11	FRESNO/MADERA, CA	1.003	0.971	0.032	3.3
621	13	SOUTHEAST IL	0.913	0.882	0.031	3.5
900	04	WESTERN TX	0.924	0.893	0.031	3.5
1030	07	PRESCOTT, AZ	0.995	0.964	0.031	3.2
1290	03	ELKO & ELY (CITIES), NV	1.010	0.980	0.030	3.1
10230	04	EASTERN CT	1.100	1.072	0.028	2.6
621	07	QUINCY, IL	0.913	0.886	0.027	3.1
700	02	MASS SUBURBS/RURAL CITIES	1.075	1.048	0.027	2.6
542	10	MERCED/SURR.CNTYS, CA	1.003	0.977	0.026	2.7
621	14	SOUTHERN IL	0.913	0.889	0.024	2.7
900	30	SAN ANGELO, TX	0.924	0.900	0.024	2.7
630	03	REST OF IN	0.925	0.901	0.024	2.7
1030	05	FLAGSTAFF, AZ	0.995	0.973	0.022	2.3
510	06	REST OF AL	0.922	0.902	0.020	2.2
900	19	MC ALLEN, TX	0.924	0.904	0.020	2.2
900	10	BROWNSVILLE, TX	0.924	0.905	0.019	2.1
1030	08	YUMA, AZ	0.995	0.976	0.019	2.0
900	34	WICHITA FALLS, TX	0.924	0.906	0.018	2.0
1040	04	REST OF GA	0.935	0.917	0.018	2.0
621	01	NORTHWEST, IL	0.913	0.896	0.017	1.9
900	33	LAREDO, TX	0.924	0.907	0.017	1.9
951	13	CENTRAL WI	0.941	0.924	0.017	1.8
951	14	SOUTHWEST WI	0.941	0.924	0.017	1.8
10250	01	REST OF MISSISSIPPI	0.899	0.883	0.016	1.8
951	12	NORTHWEST WI	0.941	0.925	0.016	1.7
860	03	SOUTHERN NJ	1.051	1.035	0.016	1.6
900	29	ABILENE, TX	0.924	0.909	0.015	1.7
590	01	REST OF FLORIDA	0.984	0.969	0.015	1.6
1030	02	TUCSON, AZ	0.995	0.980	0.015	1.5
630	02	URBAN IN	0.925	0.912	0.013	1.4
900	02	NORTHEAST RURAL TX	0.924	0.911	0.013	1.4
801	04	REST OF NEW YORK	0.973	0.960	0.013	1.4
1290	99	REST OF NEVADA	1.010	0.998	0.012	1.2
528	50	REST OF LA	0.926	0.915	0.011	1.2
5130	12	NORTH IDAHO	0.911	0.901	0.010	1.1
16510	20	SOUTHERN VALLEY, WV	0.908	0.898	0.010	1.1
1380	99	REST OF OREGON	0.934	0.924	0.010	1.1
660	03	REST OF KENTUCKY	0.904	0.895	0.009	1.0
528	07	ALEXANDRIA, LA	0.926	0.917	0.009	1.0

TABLE 4-2 (continued)

DIFFERENCE BETWEEN 1996 GEOGRAPHIC ADJUSTMENT FACTOR (GAF) AND OPTION 1i, 3.5% THRESHOLD GAF, BY MEDICARE PAYMENT LOCALITY, IN DESCENDING ORDER OF DIFFERENCE

Carrier Code	Locality Code	Payment Locality	Option 1i GAF	1996 GAF	Percentage Point Difference	Percent Difference
<b><u>LARGEST LOSERS</u></b>						
90	10	SOUTH & E. SHORE MD	0.964	0.974	-0.010	-1.0
95	14	GREEN BAY (NORTHEAST), WI	0.941	0.951	-0.010	-1.1
86	00	MIDDLE NJ	1.051	1.062	-0.011	-1.0
54	22	RIVERSIDE, CA	1.003	1.014	-0.011	-1.1
62	10	KANKAKEE, IL	0.913	0.924	-0.011	-1.2
74	00	RURAL NW COUNTIES, MO	0.902	0.913	-0.011	-1.2
138	01	SW OR CITIES (CITY LIMITS)	0.954	0.946	-0.012	-1.3
90	01	EL PASO, TX	0.924	0.936	-0.012	-1.3
63	00	METROPOLITAN IN	0.925	0.938	-0.013	-1.4
62	10	NORMAL, IL	0.913	0.926	-0.013	-1.4
62	11	CHAMPAIGN-URBANA, IL	0.913	0.927	-0.014	-1.5
1025	00	URBAN MISSISSIPPI	0.899	0.913	-0.014	-1.5
52	80	LAKE CHARLES, LA	0.926	0.941	-0.015	-1.6
54	20	N. COASTAL CNTYS, CA	1.003	1.019	-0.016	-1.6
54	21	SAN BERNADINO/E. CTRL CNTYS CA	1.003	1.019	-0.016	-1.6
104	00	SMALL GA CITIES 02	0.935	0.951	-0.016	-1.7
54	20	SACRAMENTO/SURR. CNTYS, CA	1.003	1.020	-0.017	-1.7
51	00	NORTHWEST AL	0.922	0.939	-0.017	-1.8
90	02	CORPUS CHRISTI, TX	0.924	0.941	-0.017	-1.8
52	80	BATON ROUGE, LA	0.926	0.944	-0.018	-1.9
74	00	ST JOSEPH, MO	0.902	0.920	-0.018	-2.0
205	02	SAN DIEGO/IMPERIAL, CA	1.003	1.022	-0.019	-1.9
90	02	ORANGE, TX	0.924	0.944	-0.020	-2.1
80	10	ROCHESTER/SURR. CNTYS, NY	0.973	0.995	-0.022	-2.2
90	01	ODESSA, TX	0.924	0.946	-0.022	-2.3
90	02	MIDLAND, TX	0.924	0.946	-0.022	-2.3
1023	00	S. CNTRL CT	1.100	1.123	-0.023	-2.1
90	00	SAN ANTONIO, TX	0.924	0.949	-0.025	-2.6
62	10	PEORIA, IL	0.913	0.938	-0.025	-2.7
1651	01	EASTERN VALLEY, WV	0.908	0.937	-0.029	-3.1
90	01	DENTON, TX	0.924	0.955	-0.031	-3.3

SOURCE: Health Economics Research, Inc.

and malpractice insurance--by the corresponding GPCI calculated for each FSA alternative, sum these products, and multiply the resulting value by the conversion factor:

$$\text{Pay} = \text{conversion factor} * \{\text{RVU}(w)*\text{GPCI}(w) + \text{RVU}(pe)*\text{GPCI}(pe) + \text{RVU}(mp)*\text{GPCI}(mp)\} \quad (1)$$

The percentage gain or loss under the locality alternative is then calculated as:

$$\{\text{Payment}(\text{alternative}) - \text{Payment}(\text{existing})\} / \text{Payment}(\text{existing}) * 100. \quad (2)$$

This change is calculated first using the localities created under the 5 percent threshold of iterative Option 1 and then using localities created under the 3.5% threshold of this option.

For each of our analyses, no additional volume response by physicians or patients is simulated; we make no attempt to model how physicians or patients would change quantities in response to the change in physician payments. If there is a volume response, our simulated impacts can still be interpreted as the change in payments per service (for the historical mix of services), but they will not accurately indicate the change in total Medicare income.

#### 4.2.1 Level of Urbanicity

To assess urban/rural impacts of alternative locality configurations, we used the HER/HCFR file containing physician services RVUs at the county level. Total payments under the current locality configuration and each alternative were calculated for each county. Urban areas were defined as metropolitan counties (MSAs/PMSAs/NECMAs) while rural areas were defined as non-metropolitan counties. The change in payments nationally was calculated by summing payments for all urban areas and for all rural areas, and calculating the difference under the payment options. Next, the percentage change in payments for each option was calculated using an analogous methodology for each of four urban population classes: MSAs with a population of more than three million, one to three million, 500,000 to one million, and less than 500,000. Finally, the percentage change in payments was calculated for urban and rural areas within each state to examine larger effects that may be masked when computing the national values.

#### 4.2.2 Specialty

Reconfiguring localities will have no effect on the relative payments for specialties located in a given area (county). That is, if a county received a higher GAF as a result of the

reconfiguration, that GAF would apply to all physicians in that county equally. However, alternative FSAs can have effects on national payments by specialty since specialties are not distributed uniformly around the country. For example, if rural counties gained under an alternative, and primary care physicians are disproportionately located in rural counties, then primary care physicians would gain compared to the current localities.

To assess impacts of alternative locality configurations by physician specialty, we used HCFA's 1995 PPR Analytic File. This file represents 1993 utilization of Part B services processed through June 1994. Coding is mapped to the 1995 CPT for physician services. The file is constructed at the Carrier, Locality, Procedure, Modifier, Specialty, and Place of Service level. For each observation, we calculated the total RVUs billed at this level by multiplying the three RVU weights--work, practice expense, and malpractice insurance--by the MTU values on the file. The specialty designations were then collapsed into 28 specialty categories, and total RVUs for each specialty were aggregated to the national level. Payments were then calculated using the total RVUs and the GPCI weights as described in equation 1. Changes in payments for each physician specialty were calculated as described in equation 2.

#### 4.2.3 Beneficiary Characteristics

To determine whether the locality reconfiguration had a differential impact on some groups of beneficiaries, we began by calculating for each county the percentage difference between the existing locality GAF and each alternative GAF. Counties were then grouped into seven classes based on this difference: counties with an increase of more than 10 percent, an increase of 5 to 10 percent, an increase of 0 to 5 percent, no change, a decrease of 0 to 5 percent, a decrease of 5 to 10 percent, and a decrease of more than 10 percent.

To determine the distribution of beneficiaries residing in each of these payment change classes we used two files. HCFA's county enrollment file provides the number of Medicare beneficiaries in each county, stratified by age, sex, and race. The Area Resource File (ARF) contains the number of people per county age 65 and over whose income places them below the federal poverty level. We then estimated, for each beneficiary stratification, the proportion of people with that characteristic by payment change class. For example, we calculated for each locality configuration the percentage of beneficiaries age 85 and older living in counties in which payments decreased by more than 10 percent. If this proportion were high for some alternative, it may be indicative of potential access problems for the very old under that locality configuration. We also calculated the distribution of all beneficiaries across the seven gain/loss classes to simplify interpretation of the results.



### 4.3 Impact Estimates

#### 4.3.1 Impacts by Level of Urbanicity

Table 4-3 presents the change in physician payments by level of urbanicity. Overall, urban areas lose under both alternatives, while rural areas gain. However, the changes are small, with rural areas gaining at most 1.0 percent and urban areas losing at most 0.14 percent (both occurring with the 5 percent threshold). The relative gain by rural areas was expected, as fewer separate FSAs break out under Option 1 than under the current payment localities. As a result, more urban areas are combined with less expensive rural areas, raising rural payments.

The reduction in the number of localities also helps explain the pattern of changes in payments among the four population size classes for MSAs. Payments to MSAs with a population of more than three million remain virtually unchanged using either threshold (a change of 0.01 or 0.02 percent). These areas are mostly separate localities under the current system and also under Option 1, so most experience no change in payments. MSAs with a population of 500,000 to one million or of one to three million experience payment reductions using either threshold. Many of these areas are separate localities under the current set of FSAs. Under Option 1, fewer of them break out as separate localities, and many become averaged into statewide localities, thus reducing payment levels. The smallest MSAs, like rural areas, gain from the reduction in FSAs, as they become averaged in with larger, more expensive metropolitan areas.

Table 4-4 presents changes in payments by urban and rural areas for states in which localities change under either option. The changes within state, while generally small, are often several magnitudes greater than the national urban/rural changes. This is not surprising since the national values include all states with no change along with the 26 experiencing some effect, thereby reducing the national impact. The largest change in any area is for rural Missouri, which gains 5.28% under the 5 percent threshold option. This large rural gain is the result of eliminating separate localities for St. Louis and Kansas City, Missouri. Similarly, the 3.54% gain for rural Wisconsin under the 5 percent threshold option results from eliminating separate localities for Milwaukee and Madison. With only two exceptions, states follow the expected pattern of rural gains and urban losses. In Maine, rural areas experience a very small decrease in payments (0.01%) while rural areas in Maryland experience a 0.93 percent decrease in payments. This counterintuitive result for Maryland results from combining the relatively less expensive (but more urban) counties of the current Western Maryland locality with the relatively more expensive (but more rural) counties of the current Eastern Shore Maryland locality. (Payments to the Washington, DC and Baltimore localities remain unchanged under either option.)

TABLE 4-3

PERCENTAGE CHANGE IN PHYSICIAN PAYMENTS BY DEGREE OF URBANICITY  
UNDER ALTERNATIVE FEE SCHEDULE AREA (FSA) CONFIGURATIONS

	FSA OPTION 1 - ITERATIVE	
	<u>5% threshold</u>	<u>3.5% threshold</u>
<u>All Urban</u>	-0.14 %	-0.06 %
MSAs with population >3 million	0.02	0.01
MSAs with population 1-3 million	-0.35	-0.20
MSAs with population 500,000 to 1 million	-0.27	-0.04
MSAs with population less than 500,000	0.08	0.04
<u>All Rural</u>	1.00	0.42

NOTE: Change in physician payments are per service. No volume response to payment changes is assumed.

SOURCES: HER tabulations shown in Table 3-4; HCFA/HER file of RVUs by county.

TABLE 4-4

PERCENTAGE CHANGE IN PHYSICIAN PAYMENTS BY URBAN/RURAL AREA  
WITHIN STATE UNDER ALTERNATIVE FEE SCHEDULE AREA (FSA) CONFIGURATIONS

FSA OPTION 1 - ITERATIVE					
	5% threshold		3.5% threshold		
	Urban	Rural	Urban	Rural	
Alabama	-0.48 %	2.44 %	-0.26 %	1.32 %	
Arizona	-0.12	1.52	-0.12	1.52	
California	-0.18	0.66	-0.01	0.26	
Connecticut	-0.11	1.61	-0.09	1.38	
Florida	-0.04	0.94	-0.04	0.94	
Georgia	-0.41	1.21	-0.41	1.21	
Idaho	-0.35	0.24	-0.35	0.24	
Illinois	-0.33	2.40	-0.19	1.34	
Indiana	-0.40	1.81	-0.40	1.81	
Kansas	-0.59	1.05	0.00	0.00	
Kentucky	-1.30	2.07	-0.08	0.13	
Louisiana	-0.15	1.14	-0.15	1.14	
Massachusetts	-0.02	2.58	-0.02	2.58	
Maryland	0.07	-0.93	0.07	-0.93	
Maine	0.01	-0.01	0.01	-0.01	
Missouri	-1.18	5.28	-0.02	0.11	
Mississippi	-1.28	0.72	-1.28	0.72	
Nevada	-0.02	0.31	-0.02	0.31	
New York	-0.03	0.71	-0.03	0.71	
Oregon	-0.16	0.33	-0.16	0.33	
Pennsylvania	-0.03	0.27	-0.03	0.27	
Texas	-0.18	1.56	-0.18	1.56	
Virginia	-0.68	2.99	-0.02	0.13	
Washington	-0.17	0.03	-0.17	0.03	
Wisconsin	-1.05	3.54	-0.16	0.53	
West Virginia	-1.21	1.47	-0.27	0.33	

NOTES: 1. Change in physician payments are per service. No volume response to payment changes is assumed.  
2. States that experience no change under either locality option are not shown.

SOURCES: HER tabulations shown in Table 3-4; HCFA/HER file of RVUs by county.

#### 4.3.2 Impacts by Physician Specialty

Table 4-5 presents impacts of reconfiguring localities on physician payments by specialty. Changes in aggregate payments by specialty are quite small; only one specialty (optometry) experiences a change larger than one half of one percent using the 5% threshold, and no specialty experiences a change of that magnitude using the 3.5% threshold. The largest decreases are for plastic surgeons, neurosurgeons, and other surgical specialties with losses of 0.24 to 0.19 percent under the 5% threshold.

Although the changes in payments by specialty are quite small, they tend to follow the expected pattern. Physicians in family practice, general practice and internal medicine all experience increases in payments while most medical and surgical specialties experience decreases. This pattern results from the tendency of specialists to be disproportionately concentrated in urban areas, which were seen to experience a slight decrease in payments under the FSA options.

#### 4.3.3 Impacts by Beneficiary Characteristics

Table 4-6 presents the distribution of Medicare beneficiaries by change in physician payments for their county of residence. The first row of the table presents the distribution of all beneficiaries across the four payment change classes. Using both the 5.0 and the 3.5 percent thresholds of Option 1i, roughly 20 percent of beneficiaries live in areas in which physician payments decrease by less than 5 percent under the locality reconfiguration, roughly 50 percent live in areas that experience no change in payments, roughly 25 percent live in areas where physician payments would rise by less than five percent, and less than 2 percent of beneficiaries live in areas where physician payments would rise by five to ten percent. Under these two FSA options, no counties would experience a decrease in physician payments of more than 5 percent, or an increase of more than 10 percent.

The distributions of beneficiaries by gender and age are nearly identical to those for the overall distribution, as is the distribution of white beneficiaries. Nonwhite beneficiaries are more heavily concentrated in areas that experience no change in payments; a lower proportion of nonwhite beneficiaries live both in areas experiencing a loss and areas experiencing a gain than do white beneficiaries. For example, 14.4 percent of nonwhite beneficiaries live in an area experiencing a loss using the 5 percent threshold option compared to 21.0 percent of all beneficiaries who live in these areas. Similarly, 17.4 percent of nonwhite beneficiaries live in areas with a payment increase of up to 5 percent compared to 26.4 percent of all beneficiaries (again using the 5 percent threshold option). Beneficiaries living below poverty level are less

TABLE 4-5

PERCENTAGE CHANGE IN PHYSICIAN PAYMENTS BY SPECIALTY UNDER  
ALTERNATIVE FEE SCHEDULE AREA (FSA) CONFIGURATIONS

LOCALITY OPTION 1 - ITERATIVE		
Specialty	5.0% threshold	3.5% threshold
Family Practice	0.32 %	0.18 %
General Practice	0.25	0.12
Cardiology	-0.11	-0.04
Dermatology	-0.09	-0.05
Internal Medicine	0.02	0.02
Gastroenterology	-0.09	-0.04
Nephrology	-0.15	-0.09
Neurology	-0.11	-0.06
Psychiatry	-0.11	-0.06
Pulmonary	-0.14	-0.07
Urology	0.00	0.00
Other Medical Specialties	-0.11	-0.04
General Surgery	0.11	0.05
Neurosurgery	-0.19	-0.09
Ophthalmology	-0.01	-0.01
Orthopedic Surgery	-0.04	-0.03
Otolaryngology	-0.04	-0.02
Plastic Surgery	-0.24	-0.13
Thoracic Surgery	-0.15	-0.11
Other Surgical Specialties	-0.19	-0.08
Radiology	-0.05	-0.03
Anesthesiology	-0.17	-0.06
Pathology	-0.07	-0.04
Osteopaths	0.19	0.11
Optometry	0.65	0.44
Chiropractic	0.23	0.11
Podiatry	-0.02	0.00
All Other Providers	0.00	-0.02

NOTE: Change in physician payments are per service. No volume response to payment changes is assumed.

SOURCES: HER tabulations shown in Table 3-4; HCFA 1995 PPR Analytic File.

TABLE 4-6

DISTRIBUTION OF MEDICARE BENEFICIARIES BY CHANGE IN PHYSICIAN PAYMENTS FOR COUNTY OF RESIDENCE UNDER ALTERNATIVE FEE SCHEDULE AREA (FSA) CONFIGURATIONS

FSA OPTION 1 - ITERATIVE								
	5% Threshold				3.5% Threshold			
	Loss 0%-5%	No Gain/ Loss	Gain 0%-5%	Gain 5%-10%	Loss 0%-5%	No Gain/ Loss	Gain 0%-5%	Gain 5%-10%
<u>All Beneficiaries</u>	21.0 %	51.2 %	26.4 %	1.4 %	19.8 %	55.7 %	24.2 %	0.3 %
<u>Gender</u>								
Male	20.1	51.1	26.6	1.4	19.8	55.5	24.4	0.3
Female	21.1	51.3	26.3	1.3	19.8	55.9	24.0	0.3
<u>Race</u>								
White	21.9	49.1	27.5	1.5	20.8	53.7	25.2	0.3
Nonwhite	14.4	67.8	17.4	0.4	11.9	72.1	15.8	0.1
<u>Age</u>								
65-69	20.9	51.4	26.4	1.3	19.6	55.9	24.2	0.3
70-74	21.2	51.1	26.4	1.3	19.9	55.5	24.2	0.3
75-79	21.2	50.8	26.6	1.4	20.1	55.2	24.4	0.3
80-84	21.0	50.9	26.6	1.4	19.9	55.5	24.3	0.3
85+	20.7	51.9	25.9	1.4	19.5	56.7	23.5	0.3
<u>Income</u>								
Below Poverty Level	16.0	53.9	28.5	1.6	16.4	58.0	25.3	0.2

NOTES: 1. Change in physician payments are per service. No volume response to payment changes is assumed.

2. No county experienced a loss of more than 5% or gain of more than 10% under either option.

SOURCES: HER tabulations shown in Table 3-4; County Level Enrollment Public-Use File; Area Resource File.

likely than all beneficiaries to be living in an area experiencing a payment decrease under the locality alternatives (16 percent compared to 21 percent using the 5 percent threshold option). Given these results, it does not appear that vulnerable Medicare groups--non-whites, the very old, or the poor--would suffer decreases in access resulting from either of the FSA alternatives.

## 5.0 AGGREGATING SUBCOUNTY PAYMENT AREAS AND FUNDAMENTAL LOCALITY RESTRUCTURINGS

### 5.1 Overview

As of January 1, 1995, eleven states had Medicare payment localities defined, at least in part, in terms of subcounty areas. Of the eleven states, eight states have localities defined by city/town lines while the remaining three have localities defined by zip code boundaries. The use of subcounty localities creates unnecessary complexity and administrative burden. One of the most compelling reasons to eliminate subcounty administrative areas from Medicare payment localities is to reduce the administrative work required to maintain zip code-to-locality crosswalks. Many states employ a zip code-to-locality crosswalk when processing claims, but the continuous creation, deactivation, and redefinition of U.S. Postal Codes poses a significant obstacle in the maintenance of accurate locality definitions. Town boundaries also can be ambiguous. Since county boundaries are unambiguous and rarely change, aggregating subcounty parts to the county would minimize the administrative burden of maintaining crosswalks.

Another reason to eliminate subcounty localities is simplicity. By aggregating subcounty areas to the county, a uniform, county-based fee schedule system can be introduced nationwide. Furthermore, since the input prices for GPCIs, and ultimately GAF values, are derived from county prices, the subcounty areas provide no additional accuracy in measuring practice input price variations. More often subcounty localities complicate the calculation of GAF values.

Aggregating subcounty localities offers greater simplicity, understandability and ease of administration in managing Medicare Fee Schedule Areas. In this chapter, we first review the definition of payment areas in states that currently define at least one locality using subcounty areas. Then we introduce the concept of "county equivalent localities", by which we mean county-based areas defined to be as similar as possible to the current locality definition. County equivalent localities provide a means of eliminating subcounty areas while making as few changes as possible in the current locality structure. Because county equivalent localities retain the disadvantages of the current Medicare payment localities, we next consider the fate of subcounty areas in our preferred method for simplifying the current payment localities, Option 1i, which is described earlier in this report. Option 1i eliminates subcounty areas in 5 of the 11 of the states that currently contain them, and subcounty areas can easily be aggregated to county equivalents in four other states.



In the two remaining states, plus one state that becomes a statewide locality under Option 1i, we recommend a fundamental restructuring of the Medicare Fee Schedule Areas not derived from their current payment localities. Their current payment localities, and the Option 1i localities derived from them, do not accurately track input price variations. The goal of our proposed reconfiguration is to more accurately group areas by similarity of practice input prices. The aggregations of subcounty areas proposed in this chapter could be pursued in conjunction with a thoroughgoing revision of the Medicare Fee Schedule Areas for all states (e.g., adopting Option 1i). Or they could be applied independently, only to states that currently define some localities using subcounty areas.

## **5.2 Current Subcounty Locality Areas**

Subcounty fee schedule areas are defined by either city/town boundaries or zip code boundaries. California, Mississippi and Pennsylvania use zip codes whereas Arizona, Connecticut, Kentucky, Massachusetts, Missouri, Nevada, New York and Oregon employ city/town limits to define payment localities (Table 5-1). Although the majority of subcounty locality states have payment areas defined by city/town borders, many carriers rely on zipcode-to-locality crosswalks when processing provider claims. However, since zipcodes sometimes cross city/town boundaries, use of such crosswalks can introduce inconsistencies with official city/town-based locality definitions. This is another example of the complications which arise from using localities based on subcounty areas.

## **5.3 County Equivalent Localities**

The obvious method for eliminating subcounty localities is to expand a current locality's city/town or zip code boundaries to the surrounding county borders. In exploring this option, we defined "County Equivalent Localities" based on the following criteria:

1. For a current locality that includes multiple cities/towns in noncontiguous counties, all counties with any areas in the current locality are incorporated into the new County Equivalent Locality definition.
2. Counties currently divided between two localities are assigned to the locality where the largest portion of Medicare physician services (measured by RVUs) are provided.

The County Equivalent Option may be applied to the eleven subcounty locality states independent of the recommendations suggested under Option 1i. Adopting the County

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TABLE 5-1

STATES WITH FEE SCHEDULE AREAS INVOLVING SUBCOUNTY AREAS

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<u>States with City/Town-Based Localities</u>	<u>States with Zipcode-Based Localities</u>
Arizona	California
Connecticut	Mississippi
Kentucky	Pennsylvania
Massachusetts	
Missouri	
Nevada	
New York	
Oregon	

---

SOURCE: Medicare carriers.

Equivalent Option would reduce administrative burden and establish a nationwide county basis for Medicare payment localities. In addition, the County Equivalent Option calls for only a minor modification of existing locality definitions.

However, if pursued independently of Option 1i, the County Equivalent Option suffers from the same drawbacks as the current Medicare payment localities. This is not surprising given that it is intended to be as similar as possible to the current localities. The state of Kentucky is an example of the shortcomings of the current localities, and, correspondingly, of the County Equivalent Localities (see Figure 5-1). Kentucky's locality 02 ("Urban Areas") is comprised of numerous, scattered counties whose GAFs are little different from those of locality 03 ("Rural/Rest of State"). What is needed in Kentucky is an aggregation of localities 02 and 03, not merely an aggregation of subcounty areas to the county. Fortunately, in the first four chapters of this report, we have considered options for aggregating localities with similar input prices. The next section considers the role that our recommended FSA aggregation option, Option 1i, can play in aggregating localities that currently include subcounty areas.

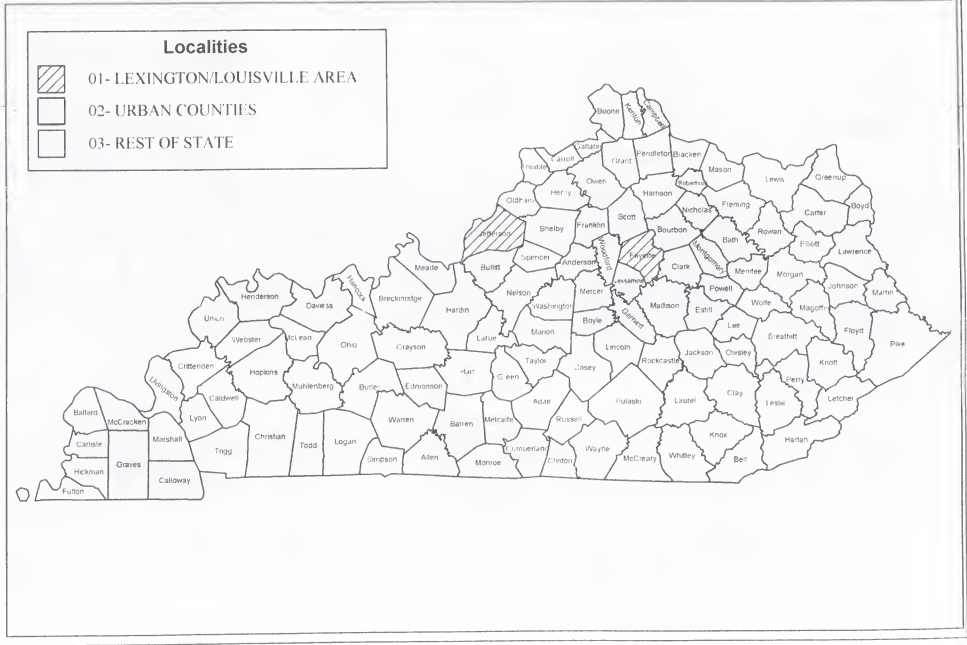
#### 5.4 Option 1i and Subcounty Areas

Option 1i, our preferred option for reconfiguring the Medicare payment localities, aggregates many of the current localities into a much smaller number. In this process, several of the payment localities that currently involve subcounty parts are aggregated into larger areas defined in terms of counties only. For these localities, the problem of subcounty localities is eliminated in Option 1i. Thus, adopting the Option 1i recommendations is one method of aggregating subcounty locality parts. The Option 1i recommendations could be adopted either in toto or only for states with localities that have subcounty parts. Other current localities involving subcounty areas are not aggregated in Option 1i. A specific aggregation of subcounty areas in these states would need to be undertaken.

In this section, we first identify states where subcounty areas are aggregated into county-based Fee Schedule Areas as part of the logic of Option 1i. Then we identify several states where subcounty areas remaining in Option 1i can be eliminated by a simple, noncontroversial aggregation to a county equivalent locality. Finally, in the next section, we discuss three states, all of which happen to currently contain subcounty locality parts, where we recommend a fundamental reconfiguration of the Medicare Fee Schedule Areas, beyond that arising from Option 1i or county equivalent localities.

Under Option 1i, Arizona, Mississippi, and Nevada each become a single statewide locality at both the 5 percent and 3.5 percent thresholds and therefore no additional subcounty aggregations are necessary. Similarly, no subcounty aggregations are required for New York

**Figure 5-1 County Equivalent Localities: KENTUCKY**



since Option 1i collapses its existing subcounty payment areas into the "Rest of State" locality at both thresholds.

Oregon retains subcounty locality parts under both the 5 and 3.5 percent thresholds of Option 1i. California has eight subcounty localities within Los Angeles county. Connecticut and Kentucky retain county parts under the 3.5 threshold only. Simple aggregations of subcounty parts to counties can eliminate the subcounty areas in these three cases:

- In Oregon, the current town-based "Portland" locality can be redefined to encompass the boundaries of Clackamas, Multnomah, and Washington counties;
- In California, Los Angeles County can be aggregated to a single locality;
- In Connecticut, the town-based "Southwestern Connecticut" locality can be redefined to be coincident with Fairfield County; and
- In Kentucky, the town-based "Metropolitan" locality can be redefined to include Fayette and Jefferson counties.

We believe that these redefinitions are noncontroversial because, in each case, the current town-based locality closely approximates the suggested county boundaries, or, in the case of Los Angeles, all the subcounty localities have the same GAF.

## 5.5 Fundamental Payment Area Reconfiguration for Three States<sup>1</sup>

In the remaining three "subcounty" locality states--Massachusetts, Missouri and Pennsylvania--we believe that neither their current payment localities, nor the redefined Fee Schedule Areas (FSA) resulting from Option 1i track input prices accurately. This assertion is supported by the average deviations between county GAFs and FSA GAFs reported in Table 5-2. The table shows Mean Absolute Percentage Deviations, or MAPEs<sup>2</sup>, by state for the 5 and 3.5 percent thresholds of Option 1i for all 28 states that currently have multiple localities. A higher MAPE indicates a less accurate locality configuration. Massachusetts and Pennsylvania have two of the four highest MAPEs at the 5 percent threshold, and the two highest MAPEs among all currently multi-locality states at the 3.5 percent threshold. The payment accuracy of their locality configurations is not improved by moving from the 5 percent to the 3.5 percent thresholds because their localities are the same at each threshold (Massachusetts, statewide,

<sup>1</sup>We propose one restructuring not discussed in this section: combining the Kansas City, Kansas and Suburban Kansas City, Kansas payment localities. They have the same GAF, so we believe this aggregation is noncontroversial.

<sup>2</sup>See Section 3.1 for more discussion of the MAPE as a measure of payment accuracy.

TABLE 5-2

PAYMENT ACCURACY\* OF FEE SCHEDULE AREAS BY STATE UNDER OPTION 1i,  
5.0% AND 3.5% THRESHOLDS, RANKED FROM LEAST TO MOST ACCURATE

<u>State</u>	<u>5.0% Threshold</u>	<u>State</u>	<u>3.5% Threshold</u>
Pennsylvania	3.90 %	Pennsylvania	3.90 %
Missouri	3.86	Massachusetts	3.16
Kansas	3.85	Kansas	3.08
Massachusetts	3.16	Mississippi	2.61
Virginia	3.06	Indiana	2.35
Wisconsin	2.94	Florida	2.07
Kentucky	2.67	New York	1.84
Mississippi	2.61	Idaho	1.76
Indiana	2.35	Missouri	1.74
Alabama	2.22	Michigan	1.49
Florida	2.07	New Jersey	1.44
Connecticut	1.92	Georgia	1.44
West Virginia	1.85	Maryland	1.42
New York	1.84	Connecticut	1.41
Idaho	1.76	Virginia	1.40
Michigan	1.49	Washington	1.35
New Jersey	1.44	Alabama	1.27
Georgia	1.44	Illinois	1.23
Maryland	1.42	Arizona	1.22
Illinois	1.40	Louisiana	1.19
Washington	1.35	Oregon	1.19
Arizona	1.22	Texas	1.14
California	1.20	California	1.14
Louisiana	1.19	Kentucky	1.04
Oregon	1.19	West Virginia	0.99
Texas	1.14	Wisconsin	0.90
Maine	0.86	Maine	0.86

\*Payment accuracy is measured by the average absolute difference (weighted by total county RVUs) between the county GAF and the FSA GAF.

NOTE: Table includes only states that had multiple payment localities as of January 1, 1995.

SOURCE: HER file of 1996 county input prices.

and Pennsylvania, "Philadelphia/Pittsburgh Medical Schools", "Large Pennsylvania Cities", and "Rest of Pennsylvania"). Missouri has the second highest MAPE at the 5 percent Option 1i threshold, where it is a single statewide locality. The payment accuracy of the 3.5 threshold localities are much better because the St. Louis and Kansas City areas break out as distinct localities. Nevertheless, we believe some modifications to even Missouri's 3.5 percent localities are warranted, as discussed below.

#### 5.5.1 Massachusetts

Massachusetts currently has two payment localities: "Urban" and "Suburban". Under Option 1i, Massachusetts becomes a single statewide locality under both the 3.5% and 5.0% thresholds. The shortcoming of the current localities, and even more so of the Option 1i statewide locality, is that the high cost Boston area is not separated from lower-cost central and western Massachusetts. The problem originates with the current "Urban Massachusetts" locality, which groups Worcester, Springfield, and Pittsfield with the substantially higher-cost Boston area. Table 5-3 shows Massachusetts counties ranked in descending order of their GAFs. Massachusetts counties fall into three natural payment localities based on their GAFs, and on geographic proximity<sup>3</sup>:

01--Boston Metropolitan Area (Suffolk, Norfolk, and Middlesex counties);

02--North and South Shores, Cape Cod, and the Islands (Essex, Plymouth, Bristol, Barnstable, Dukes, and Nantucket counties); and

03--Central and Western Massachusetts (Worcester, Franklin, Hampshire, Hampden, and Berkshire counties).

However, under Option 1i at both the 3.5 and 5 percent thresholds, localities 02 and 03 would be combined. Thus, we propose two new localities for Massachusetts, 01-Boston Metropolitan Area and 02-Rest of Massachusetts, which are mapped in Figure 5-2. With these FSAs, Massachusetts' MAPE (payment inaccuracy) falls from 3.16 percent to 1.65 percent.

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<sup>3</sup>Nantucket, a summer resort area, has a very high GAF because of its extremely high HUD Fair Market apartment rent. Geographically, it clearly belongs with locality 02 rather than locality 01, however. Similarly, Bristol county's GAF is more similar to that of the counties comprising locality 03 than of the counties included in locality 02, but geographically, it belongs with locality 02. Placing Bristol in locality 02 rather than 03 avoids large payment differences between it and localities 01 and 02, and Rhode Island.

---

TABLE 5-3

1996 GAFs FOR MASSACHUSETTS COUNTIES, IN DESCENDING  
ORDER OF GAF

---

<u>County</u>	<u>1996 GAF</u>
Suffolk (Boston)	1.126
Nantucket	1.115
Middlesex	1.103
Norfolk	1.092
Essex	1.072
Plymouth	1.067
Barnstable (Cape Cod)	1.063
Worcester	1.039
Dukes (Martha's Vineyard)	1.034
Hampshire	1.020
Hampden	1.019
Berkshire	1.007
Bristol	1.006
Franklin	1.004

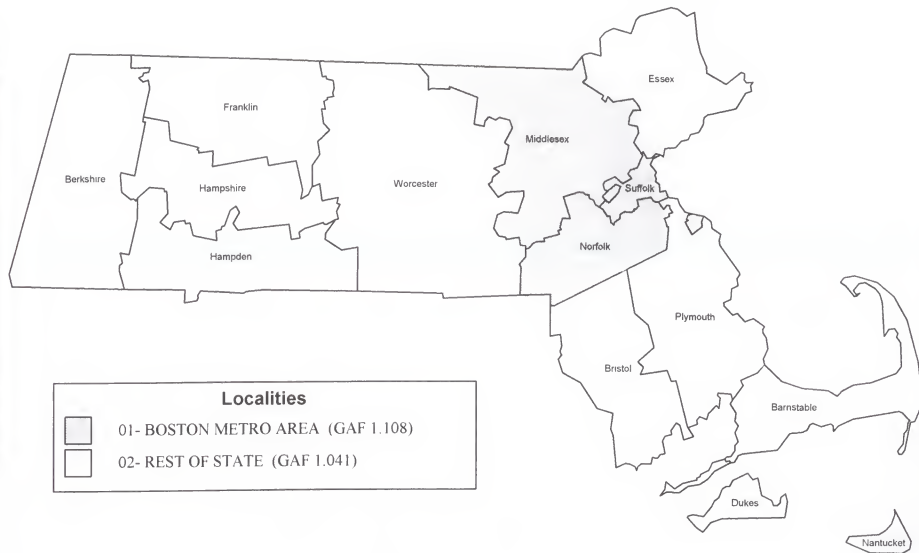
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SOURCE: HER file of county input prices.



Figure 5-2

Recommended Localities: MASSACHUSETTS



### 5.5.2 Pennsylvania

Pennsylvania currently has four payment localities:

1. Philadelphia/Pittsburgh medical schools/hospitals;
2. Large Pennsylvania cities;
3. Smaller Pennsylvania cities; and
4. Rest of Pennsylvania.

Under Option 1i, both 5 and 3.5 percent thresholds, the third and fourth localities are combined. The problem in Pennsylvania is that the high cost Philadelphia area is split into two separate localities (parts of 01 and 02), and not clearly distinguished from the lower-cost Pittsburgh area and the rest of Pennsylvania. Table 5-4 lists the 21 most costly Pennsylvania counties in descending order of their GAFs. The five counties comprising the Pennsylvania portion of the Philadelphia MSA are the most costly in Pennsylvania, and clearly belong together in a "Philadelphia Metropolitan Area" locality. Allegheny county, part of which is grouped with part of Philadelphia in locality 01, is much less expensive than the Philadelphia area, and does not belong in the same locality, either cost-wise or geographically. Thus, we propose that Pennsylvania be divided into two localities as follows:

01--Philadelphia Metropolitan Area (Montgomery, Philadelphia, Delaware, Bucks, and Chester counties); and

02 Rest of Pennsylvania (all other Pennsylvania counties).

Localities 01 and 02 remain distinct FSAs under Option 1i, 5 and 3.5 percent thresholds. Figure 5-3 shows the proposed Pennsylvania localities. These FSAs lower Pennsylvania's MAPE (payment inaccuracy) from 3.90 percent to 1.74 percent.

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TABLE 5-4

1996 GAFs FOR PENNSYLVANIA COUNTIES, IN DESCENDING  
ORDER OF GAF (TOP 21 COUNTIES)

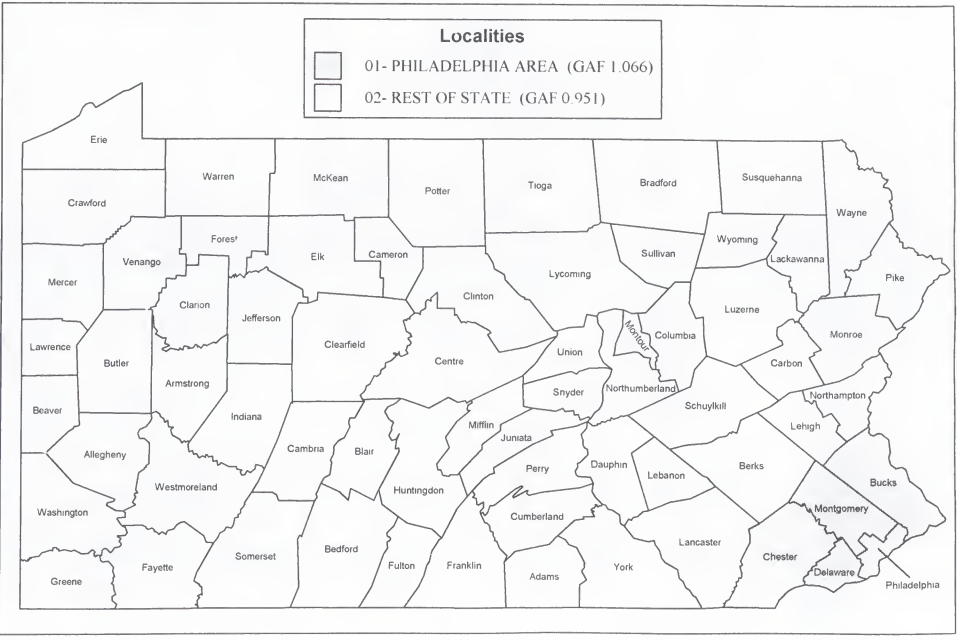
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<u>County</u>	<u>1996 GAF</u>
Montgomery (Philadelphia MSA)	1.075
Philadelphia (Philadelphia MSA)	1.070
Delaware (Philadelphia MSA)	1.062
Bucks (Philadelphia MSA)	1.052
Chester (Philadelphia MSA)	1.038
Carbon	0.989
Lehigh (Allentown)	0.989
Northampton (Easton)	0.989
Cumberland	0.972
Dauphin (Harrisburg)	0.972
Lebanon	0.972
Perry	0.972
Berks (Reading)	0.971
Pike	0.968
Westmoreland	0.967
Lancaster	0.966
Allegheny (Pittsburgh)	0.962
Beaver	0.962
Butler	0.962
Fayette	0.962
Washington	0.962

---

SOURCE: HER file of county input prices.

**Figure 5-3 Recommended Localities: PENNSYLVANIA**



### 5.5.3 Missouri

Missouri currently has seven localities:

1. Northern Kansas City;
2. Kansas City;
3. St. Louis/Large East Cities;
4. St. Joseph;
5. Rural Northwest counties;
6. Small East Cities; and
7. Rest of Missouri.

At the 5 percent threshold, Option 1i, Missouri becomes a single, statewide locality. At the 3.5 percent threshold, the first, second, and third localities listed above remain distinct FSAs, whereas the last four are combined into a residual "rest of state" area. The problem with the Missouri localities under Option 1i are two-fold: (i) at the 5 percent threshold, there is large intra-state variation within the single statewide locality due to the fact that Kansas City and St. Louis are combined with the lower-cost rest of state; (ii) at the 3.5 percent threshold, the St. Louis/Large East Cities locality remains a distinct FSA, but it combines the higher-cost St. Louis area with the lower-cost Columbia, Springfield, and Jefferson City areas. Table 5-5 lists GAFs for selected Missouri counties, and clearly shows the higher input prices in the St. Louis area compared to the Columbia (Boone county), Springfield (Greene county), and Jefferson City (Cole county).

Both of these shortcomings can be overcome by defining three new localities:

01--Kansas City (Platte, Clay, and Jackson counties);

02--St. Louis (St. Louis City, St. Louis, Jefferson, and St. Charles counties); and

03--Rest of Missouri (all other Missouri counties).

Figure 5-4 maps the proposed Missouri localities. The locality configuration would be identical under Option 1i, 5 and 3.5 percent thresholds. With these localities, Missouri's MAPE (payment inaccuracy) improves to 0.89 percent from 3.86 percent under Option 1i, 5 percent threshold, and 1.74 percent under Option 1i, 3.5 percent threshold.

TABLE 5-5

## 1996 GAFs FOR SELECTED MISSOURI COUNTIES

---

<u>County</u>	<u>1996 GAF</u>
<u>St. Louis Area</u>	
St. Louis City	0.984
St. Louis	0.984
St. Charles	0.984
Jefferson	0.984
<u>Kansas City Area</u>	
Jackson	0.983
Clay	0.983
Platte	0.981
<u>Other</u>	
Greene (Springfield)	0.922
Boone (Columbia)	0.942
Cole (Jefferson City)	0.900
Buchanan (St. Joseph)	0.920

---

SOURCE: HER file of county input prices.

**Figure 5-4 Recommended Localities: MISSOURI**



**Localities**

- 01- ST. LOUIS AREA (GAF 0.984)
- 02- KANSAS CITY AREA (GAF 0.983)
- 03- REST OF STATE (GAF 0.911)

## 5.6 Impact Analysis

What would the impact of our proposed FSA redefinitions be for the 11 states that currently involve subcounty locality areas? For five of the states, our recommendation is identical with Option 1i, whose redistributive impacts were presented in Chapter 4. Three of the other states have very minor adjustments compared to Option 1i, and thus, redistributive impacts are also accurately represented in Chapter 4.

For three other states--Massachusetts, Pennsylvania, and Missouri--we propose fundamental payment area restructuring beyond what occurs in Option 1i. 1996 GAFs for the current (1995) payment localities and for our proposed reconfigured GAFs are shown in Table 5-6 (Massachusetts), 5-7 (Pennsylvania), and 5-8 (Missouri) for the counties/county parts in each state with the largest changes.

In Massachusetts (Table 5-6), the largest winners experience an increase in their GAF of about 5 percent, and the largest losers a decrease of about 4 percent. The counties comprising the Boston metropolitan area gain the most, with the county parts formerly in the "Suburban" Massachusetts locality gaining more than the county parts formerly in the "Urban" Massachusetts locality. The formerly "Urban" parts of Worcester, Berkshire, Hampden, Plymouth, Essex, and Bristol counties lose the most as they are incorporated into the "Rest of State" locality.

In Pennsylvania (Table 5-7), the counties in the Philadelphia MSA gain substantially, by more than 6 percent, because they are separated from other, lower-cost parts of Pennsylvania in the proposed reconfiguration. Conversely, the counties that were formerly included in the "Large Pennsylvania Cities" locality with Philadelphia lose by more than 5 percent. Part of Allegheny county (Pittsburgh) suffers an especially large loss of 9 percent because it is moved from the "Philadelphia/Pittsburgh Medical Schools/Hospitals" locality to the "Rest of Pennsylvania" locality. However, it should be noted that Allegheny's GAF (0.951) under the proposed "Rest of Pennsylvania" locality is much closer to its "true" county GAF of 0.962 (see Table 5-4) than its current GAF is.

In Missouri (Table 5-8), the St. Louis area counties are the largest gainers from our proposed locality reconfiguration, although they gain less than 2 percent. The parts of Boone, Greene, and Cole counties that were formerly included in the St. Louis locality (i.e., the cities of Columbia, Springfield, and Jefferson City) are the largest losers. Their GAFs fall by about 6 percent as a result of the proposed reconfiguration as they become part of the "Rest of Missouri" locality.



TABLE 5-6

PERCENT DIFFERENCE IN 1996 GAF BETWEEN RECOMMENDED LOCALITIES  
AND CURRENT LOCALITIES, BY MASSACHUSETTS COUNTY

<u>County</u>	<u>Recommended Locality GAF</u>	<u>1996 Locality GAF</u>	<u>Percent Difference</u>
Norfolk**	1.108	1.048	5.5 %
Middlesex**	1.108	1.048	5.4
Norfolk*	1.108	1.084	2.2
Middlesex*	1.108	1.084	2.2
Suffolk (Boston)	1.108	1.084	2.1
Nantucket	1.041	1.048	-0.6
Essex**	1.041	1.048	-0.7
Barnstable (Cape Cod)	1.041	1.048	-0.7
Plymouth**	1.041	1.048	-0.7
Dukes (Martha's Vineyard)	1.041	1.048	-0.7
Worcester**	1.041	1.048	-0.7
Franklin	1.041	1.048	-0.7
Bristol**	1.041	1.048	-0.7
Hampden**	1.041	1.048	-0.7
Hampshire**	1.041	1.048	-0.7
Berkshire**	1.041	1.048	-0.7
Essex*	1.041	1.084	-4.0
Plymouth*	1.041	1.084	-4.0
Worcester*	1.041	1.084	-4.1
Hampshire*	1.041	1.084	-4.2
Hampden*	1.041	1.084	-4.2
Bristol*	1.041	1.084	-4.3
Berkshire* (Pittsfield)	1.041	1.084	-4.3

\* County part included in current Massachusetts "Urban" locality.

\*\* County part included in current Massachusetts "Suburban/Rural" locality.

SOURCE: HER file of county input prices.

TABLE 5-7

PERCENT DIFFERENCE IN 1996 GAF BETWEEN RECOMMENDED AND  
CURRENT LOCALITIES, FOR SELECTED PENNSYLVANIA COUNTIES

<u>County</u>	<u>Recommended Locality GAF</u>	<u>Current Locality GAF</u>	<u>Percent Difference</u>
<b><u>Largest Gainers</u></b>			
Chester (Philadelphia MSA)	1.066	1.001	6.3 %
Bucks (Philadelphia MSA)	1.066	1.001	6.2
Delaware (Philadelphia MSA)	1.066	1.001	6.1
Montgomery (Philadelphia MSA)	1.066	1.001	6.0
Greene	0.951	0.930	2.4
Philadelphia (Philadelphia MSA)	1.066	1.041	2.3
Huntingdon	0.951	0.930	2.3
Tioga	0.951	0.930	2.3
Bedford	0.951	0.930	2.3
<b><u>Largest Losers</u></b>			
Lehigh (Allentown)	0.951	1.001	-5.1
Northampton (Easton)	0.951	1.001	-5.1
Berks (Reading)	0.951	1.001	-5.2
Westmoreland	0.951	1.001	-5.2
Allegheny* (Pittsburgh)	0.951	1.001	-5.2
Beaver	0.951	1.001	-5.2
Lackawanna (Scranton)	0.951	1.001	-5.3
Lycoming (Williamsport)	0.951	1.001	-5.4
Erie	0.951	1.001	-5.4
Allegheny** (Pittsburgh)	0.951	1.041	-9.4

\* County part included in current "Major Metropolitan Areas" locality.

\*\* County part included in current "Philadelphia/Pittsburgh Medical Schools/Hospitals" locality.

SOURCE: HER file of county input prices.

TABLE 5-8

PERCENT DIFFERENCE IN 1996 GAF BETWEEN RECOMMENDED AND  
CURRENT LOCALITIES, FOR SELECTED MISSOURI COUNTIES

---

<u>County</u>	<u>Recommended Locality GAF</u>	<u>Current Locality GAF</u>	<u>Percent Difference</u>
<b><u>Largest Gainers</u></b>			
Jefferson (St. Louis MSA)	0.984	0.968	1.6 %
St. Charles (St. Louis MSA)	0.984	0.968	1.6
St. Louis (St. Louis MSA)	0.984	0.968	1.6
St. Louis City (St. Louis MSA)	0.984	0.968	1.6
Marion	0.911	0.897	1.6
Butler	0.911	0.897	1.6
<b><u>Largest Losers</u></b>			
Buchanan (St. Joseph)	0.911	0.920	-1.0
Boone (Columbia)	0.911	0.968	-6.1
Greene (Springfield)	0.911	0.968	-6.2
Cole (Jefferson City)	0.911	0.968	-6.3

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SOURCE: HER file of county input prices.

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